THE STATE OF OKLAHOMA

2002
WATER QUALITY ASSESSMENT INTEGRATED REPORT

PREPARED PURSUANT TO SECTION 303(d) AND SECTION 305(b) OF THE CLEAN WATER ACT

Prepared by
OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

ESI-STOK0114060

EXHIBIT
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Acronyms and Definitions

Agencies

ODAFF	Oklahoma Department of Agriculture Food and Forestry
OCC	Oklahoma Conservation Commission
Corporation Commission	Oklahoma Corporation Commission
OSDH	Oklahoma State Department of Health
OSE	Office of the Secretary of Environment
DEQ	Oklahoma Department of Environmental Quality
OWRB	Oklahoma Water Resources Board
Wildlife Department	Oklahoma Department of Wildlife Conservation

Terminologies

303(d)	This section of the Clean Water Act requires each state to identify waters that do not or are not expected to meet applicable Water Quality Standards with technology-based controls alone. States are required to establish a priority ranking for the waters, taking into account the pollution severity and designated uses of the waters. Once identification and priority ranking are completed, states are to develop Total Maximum Daily Loads at a level necessary to achieve the applicable state Water Quality Standards.
304(l)	This section of the Clean Water Act requires each state to identify those waters that fail to meet Water Quality Standards due to toxic pollutants and other sources of toxicity. It also requires the preparation of individual control strategies that will reduce point source discharges of toxic pollutants.
305(b)	This section of the Clean Water Act requires each state to report its water quality on a biennial cycle.
314	This section of the Clean Water Act requires each state to establish a Lake Water Quality Assessment Report. This section provides federal funds for the state to submit a classification of lakes according to trophic condition, develop processes and methods to control sources of pollution and to work with other agencies in restoring the quality of those lakes. Section 314 establishes the guidelines for conducting Clean Lake Studies Phase I and II.
319(h)	This section of the Clean Water Act requires each state to develop a State Assessment Report and a Management Program for Nonpoint Source pollution problems. The Assessment Report is to describe the nature, extent, and effects of Nonpoint Source pollution, the causes and sources of such pollution, and programs and methods used for controlling this pollution.

BMPs Best Management Practices: A technique that is determined to be the most effective, practical means of preventing or reducing pollutants from nonpoint sources in order to achieve water quality goals.

BOD_5 Biochemical Oxygen Demand (5-Day): The oxygen used in meeting the metabolic needs of aerobic microorganisms in water rich in organic matter -- called also biological oxygen demand; the test requires five days of laboratory time and results may vary when toxic substances are present which effect bacteria.

$CBOD_5$ Carbonaceous Biochemical Oxygen Demand (5-Day): That portion of the BOD that is not due to oxidation of nitrogenous compounds.

CTSI Carlson's Trophic State Index (CTSI = 9.81 ln[chl-α] + 30.6).

CWA Clean Water Act: Public Law 92-500 enacted in 1972 provides for a comprehensive program of water pollution control; two goals are proclaimed in this Act: (1) to achieve swimmable, fishable waters wherever attainable by July 1, 1983, and (2) by 1985 eliminate the discharge of pollutants into navigable waters.

DDT Dichlorodiphenyltrichloroethane: A colorless odorless water-insoluble crystalline insecticide C14H9Cl5 that tends to accumulate in ecosystems and has toxic effects on many vertebrates.

DO Dissolved Oxygen: The amount of oxygen dissolved in water. DO concentrations range from a few parts per million up to about 10 ppm for most Oklahoma streams. A level of DO around 7 ppm is essential to sustain desired species of game fish. If DO drops below 5 ppm the danger of a fish kill is present and malodorous conditions will result. The major factors determining DO levels in water are temperature, atmospheric pressure, plant photosynthesis, rate of aeration and the presence of oxygen demanding substances such as organic wastes. In addition to its affect on aquatic life, DO also prevents the chemical reduction and subsequent movement of iron and manganese from the sediments and thereby reduces the cost of water treatment.

µg/l Microgram/liter.

NPDES National Pollutant Discharge Elimination System: A permit program established by Section 402 of the Clean Water Act. This program regulates discharges into the nation's water from point sources, including municipal, industrial, commercial and certain agricultural sources.

NTU Nephelometric Turbidity Units: The measurement of the extent or degree of cloudiness by means of a nephelometer (an instrument for determining the concentration or particle size of suspensions by means of transmitted or reflected light).

OKWBID Oklahoma Waterbody Identification number: A unique identifier assigned to each waterbody in Oklahoma. For a complete description of OKWBIDs, please see Appendix A.

PCB(s) Polychlorinated Biphenyl(s): Any of several compounds that are produced by replacing hydrogen atoms in biphenyl with chlorine, have various industrial applications, and are poisonous environmental pollutants which tend to accumulate in animal tissues.

pH	The negative logarithm of the effective hydrogen ion concentration or hydrogen-ion activity in gram equivalents per liter used in expressing both acidity and alkalinity on a scale whose values run from 0 to 14 with 7 representing neutrality, numbers less than 7 increasing acidity, and numbers greater that 7 increasing alkalinity.
Playa Lakes / Prairie Potholes	Shallow, small, ephemeral to permanent closed basin lake, typically found in high plains and deserts.
TDS	Total Dissolved Solids: The complete amount of solid matter dissolved in water or wastewater.
TMDL	Total Maximum Daily Load: The sum of individual wasteload allocations for point sources, safety, reserves, and loads from nonpoint source and natural backgrounds.
WLA	Wasteload Allocation: The assignment of target loads to point sources so as to achieve Water Quality Standards in the most efficient manner. The wasteload allocation is designed to allocate or allow certain quantities, rates or concentration of pollutants discharged from contributing point sources which empty their effluent into the same river segment. The purpose of the wasteload allocation is to eliminate an undue "wasteload burden" on a given stream segment.
WQS	Water Quality Standards: rules which establish classifications of uses of waters of the state, criteria to maintain and protect such classifications, and other standards or policies pertaining to the quality of such waters. The purpose of the Standards is to promote and protect as many beneficial uses as are attainable and to assure that degradation of existing quality of waters of the State does not occur. These rules can be found at OAC 785:45.

Executive Summary/Overview

Clean Water Act (CWA) Section 303(d) Requirements

The 1972 amendments to the Clean Water Act include Section 303(d). The regulations implementing Section 303(d) require states to develop lists of water bodies that do not meet water quality standards and to submit updated lists to the U. S. Environmental Protection Agency (EPA) every two years. Water quality standards, as defined in the Code of Federal Regulations, include beneficial uses, water quality objectives (narrative and numerical) and anti-degradation requirements. The EPA is required to review impaired water body lists submitted by each state and approve or disapprove all or part of the list.

For water bodies on the 303(d) list, the Clean Water Act requires that a pollutant load reduction plan or TMDL be developed to correct each impairment. TMDLs must document the nature of the water quality impairment, determine the maximum amount of a pollutant which can be discharged and still meet standards, and identify allowable loads from the contributing sources. The elements of a TMDL include a problem statement, description of the desired future condition (numeric target), pollutant source analysis, load allocations, description of how allocations relate to meeting targets, and margin of safety.

CWA Section 305(b) Requirements

The 1972 amendments to the Clean Water Act also include Section 305(b). The regulations implementing Section 305(b) require states to develop an inventory of the water quality of all water bodies in the state and to submit an updated report to the EPA every two years. This process was established as a means for the EPA and the U. S. Congress to determine the status of the nation's waters.

The 305(b) Report also includes: an analysis of the extent to which water bodies comply with the "fishable/swimmable" goal of the CWA; an analysis of the extent to which the elimination of the discharge of pollutants and a level of water quality achieving the "fishable/swimmable" goal have been or will be attained, with recommendations of additional actions necessary to achieve this goal; an estimate of a) the environmental impact, b) the economic and social costs, c) the economic and social benefits, and d) the estimated date of such achievement; and finally, a description of the nature and extent of nonpoint sources of pollutants, and recommendations of programs needed to control them- including an estimate of the costs of implementing such programs.

Integrated List Guidance

The US Environmental Protection Agency (USEPA) issued guidance (USEPA 2000a) for the development of an Integrated Water Quality Monitoring and Assessment Report (Integrated Report) by the States beginning with the Year 2002 submittal. This guidance recommends for the first time that States integrate their Water Quality Inventory Report (Section 305(b) of the CWA) and their Impaired Waterbodies List (Section 303(d) of the CWA). The Integrated Report is intended to provide an effective tool for maintaining high quality waters and improving the quality of waters that do not attain water quality standards. The Integrated Report will also provide water resources managers and citizens with detailed information regarding the following:

- Delineation of water quality assessment units providing geographic display of assessment results;
- Progress toward achieving comprehensive assessment of all waters;
- Water quality standards attainment status;
- Methods used to assess water quality standards attainment status;
- Additional monitoring needs and schedules;
- Pollutants and watersheds requiring Total Maximum Daily Loads (TMDLs);
- Management strategies (including TMDLs) under development to attain water quality standards;
- TMDL development schedules.

The Integrated Report will streamline water quality reporting since data sources and assessment methods will be described in detail, providing a sound technical basis for assessment decisions. Assessment results will also be conveyed in a spatial context, allowing a clearer picture of water quality status and issues. Monitoring needs and schedules will be described, facilitating the articulation of monitoring priorities and identifying opportunities for cooperation with other agencies and watershed partners. TMDL needs and schedules will be defined to convey plans for water quality improvements. The public participation aspects will provide opportunities for data submittal and open discussion of water quality assessment methods and results.

The Integrated Report combines the non-regulatory requirements of the Water Quality Inventory Report (305b) with regulation driven List of Impaired Waterbodies (303d) (i.e., only the latter mandates TMDL development). Successful integration into a single report requires a careful meshing of requirements and procedures. In general, Category 5 of the Integrated Report satisfies USEPA reporting requirements under Section 303d (Impaired Waterbodies) and the remaining Categories document assessment under Section 305b (Water Quality Inventory). Therefore, the regulatory requirements (i.e., EPA approval and adoption; public participation, etc.) for 303d impaired waterbodies listing only apply to Category 5 of the Integrated Report.

The methods used to develop the 2002 Integrated Report (and subsequent Reports) are described in the Continuing Planning Process (CPP). One goal of the CPP is to provide an objective and scientifically sound waterbody assessment listing methodology including:

- A description of the data that the State will use to assess attainment of surface water quality standards;
- The quality assurance aspects of the data;
- A detailed description of the methods used to evaluate water quality standards attainment;
- The placement of waterbodies in one of 5 Categories:

Category 1 - Attaining the water quality standard and no use is threatened.

Waterbodies listed in this category are characterized by data and information that meet the requirements of the CPP to support a determination that the water quality standard is attained and no use is threatened. Consideration will be given to scheduling these waterbodies for future monitoring to determine if the water quality standard continues to be attained.

Category 2 - Attaining some of the designated uses; no use is threatened; and insufficient or no data and information is available to determine if the remaining uses are attained or threatened.

Waterbodies listed in this category are characterized by data and information which meet the requirements of the CPP to support a determination that some, but not all, uses are attained and none are threatened. Attainment status of the remaining uses is unknown because there is insufficient or no data or information. Monitoring shall be scheduled for these waterbodies to determine if the uses previously found to be in attainment remain in attainment, and to determine the attainment status of those uses for which data and information was previously insufficient to make a determination.

Category 3 - Insufficient or no data and information to determine if any designated use is attained.

Waterbodies are listed in this category when the data or information to support an attainment determination for any use is not available, consistent with the requirements of the CPP. To assess the attainment status of these waterbodies, supplementary data and information shall be obtained, or monitoring shall be scheduled as needed.

Category 4 - Impaired or threatened for one or more designated uses but does not require the development of a TMDL.

4A - TMDL has been completed.
Waterbodies are listed in this subcategory once all TMDL(s) have been developed and approved by EPA that, when implemented, are expected to result in full attainment of the standard. Where more than one

pollutant is associated with the impairment of a waterbody, the waterbody will remain in Category 5 until all TMDLs for each pollutant have been completed and approved by EPA. Monitoring shall be scheduled for these waterbodies to verify that the water quality standard is met when the water quality management actions needed to achieve all TMDLs are implemented.

4B - Other pollution control requirements are reasonably expected to result in the attainment of the water quality standard in the near future.
Consistent with the regulation under 130.7(b)(i),(ii), and (iii), waterbodies are listed in this subcategory when other pollution control requirements required by local, state, or federal authority are stringent enough to implement any water quality standard (WQS) applicable to such waters. These requirements must be specifically applicable to the particular water quality problem. Monitoring shall be scheduled for these waterbodies to verify that the water quality standard is attained as expected.

4C - Impairment is not caused by a pollutant.
Waterbodies are listed in this subcategory if the impairment is not caused by a pollutant. Scheduling of these waterbodies for monitoring to confirm that there continues to be no pollutant-caused impairment and to support water quality management actions necessary to address the cause(s) of the impairment, shall be considered.

Category 5 - The water quality standard is not attained. The waterbody is impaired or threatened for one or more designated uses by a pollutant(s), and requires a TMDL.

This category constitutes the Section 303(d) list of waters impaired or threatened by a pollutant(s) for which one or more TMDL(s) are needed. A waterbody is listed in this category if it is determined, in accordance with the CPP, that a pollutant has caused, is suspected of causing, or is projected to cause an impairment. Where more than one pollutant is associated with the impairment of a single waterbody, the waterbody will remain in Category 5 until TMDLs for all pollutants have been completed and approved by EPA. For waterbodies listed in this category, monitoring schedules shall be provided that describe when data and information will be collected to support TMDL establishment and to determine if the standard is attained. While the waterbody is being monitored for a specific pollutant to develop a TMDL, the watershed shall also be monitored to assess the attainment status of other uses. A schedule for the establishment of TMDLs for all waters in Category 5 shall be submitted. This schedule shall reflect the priority ranking of the listed waters.

The CPP will provide a companion to the 2002 Integrated Report. It is anticipated that this will be a living document and will be modified, as appropriate, to accompany subsequent Integrated Reports.

Oklahoma's comprehensive waterbody category list is available in Appendix B. Category 5 waterbodies can be viewed exclusively in Appendix C.

Synopsis

During the 2001/2002 reporting cycle, there were a total of 3,970 waterbodies delineated into the new Oklahoma Assessment Database (ADB). These waters include approximately 34,142 river and stream miles and 625,896 lake acres. Of the river miles, approximately 517 miles form the border with the State of Texas. Of the 3,970 waterbodies, approximately 1042 waterbodies were assessed using ambient monitoring data, professional evaluation, and citizen input. Total waters for the state of Oklahoma include 78,788 river and stream miles and 1,041,884 lake acres.

The water quality data used in this report was collected by the Oklahoma Conservation Commission (OCC), Department of Environmental Quality (DEQ), Department of Agriculture Food and Forestry (ODAFF), Corporation Commission, Oklahoma Water Resources Board (OWRB), United States Geological Survey, and citizens of the state. The data used in this report came from the *Toxics Monitoring Survey of Oklahoma Reservoirs* (OSDH, 1995), *Nonpoint Source Pollution Assessment Report (Section 319(h))* (OCC, 1988, 1994), Clean Lakes Programs (Section 314) (OCC & OWRB), *Lake Water Quality Assessment Report* (OCC & OWRB, 1994), 1990 *Oklahoma Water*

Quality Assessment Report (Section 305(b)) (ODEQ, 1994), Beneficial Use Monitoring Program, intensive and rapid bio-assessment surveys, fish and wildlife kill reports, spill reports, citizen complaints.

Additional monitoring will allow the state agencies to refine and modify the descriptions of the quality of the state's waters. This report reflects water quality determinations made in the past and such determinations will be confirmed or modified, as additional monitoring data becomes available. Where some waterbodies are indicated to be impaired, and suspected cause of impairment listed, this information is also subject to confirmation or modification based on additional studies and evaluation by state agencies.

Figure 1 shows a percentage of all waterbodies in the state of Oklahoma designated as one of the five available categories outlined in the Integrated List Guidance above.

Figure 1

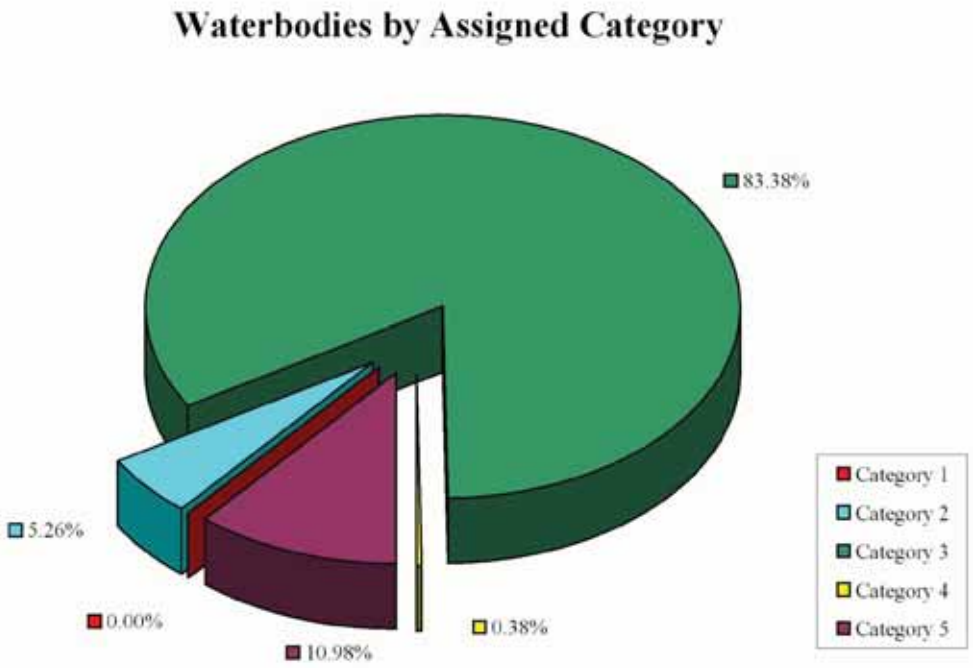


Figure 2 shows the percentage of all stream or river miles as one of the five categories, while Figure 3 outlines the percentage of all lake acres in the state as one of these categories.

Figure 2

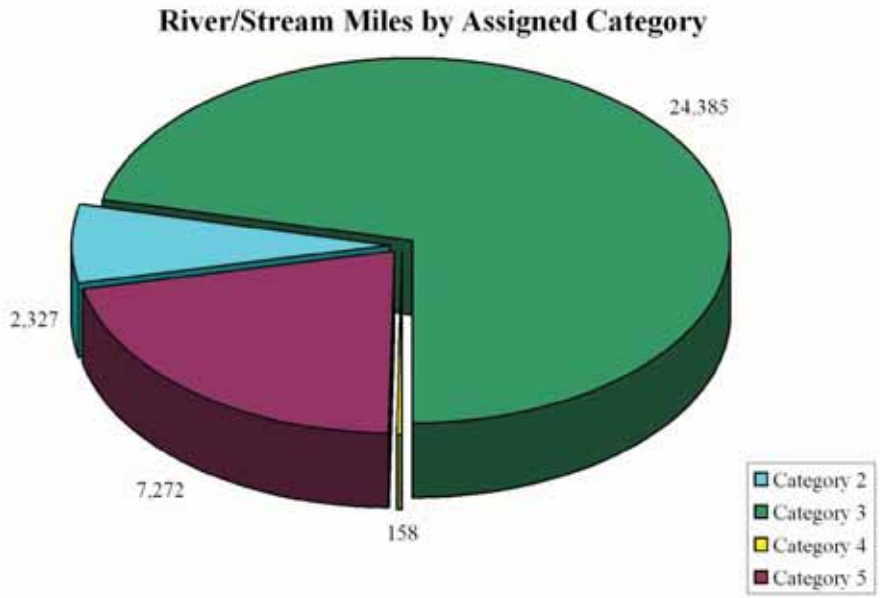
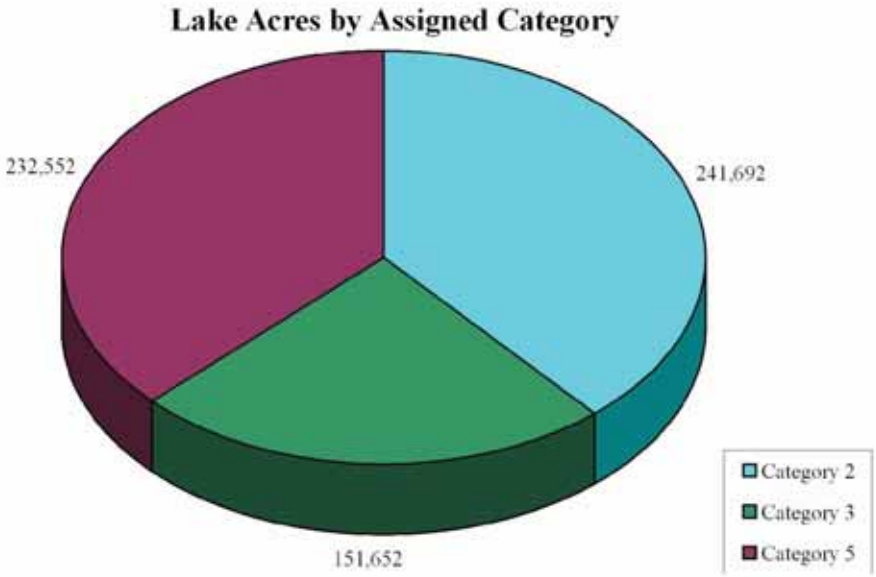


Figure 3



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Appendix B
Comprehensive Waterbody Assessment Category List

OKWBID	NAME	TYPE	SIZE (Lake Acres or Stream Miles)	CATEGORY	Monitoring Date	TMDL Date	Aesthetics	Agriculture	Cool Water Aquatic Community	Emergency Water Supply	Fish Consumption	Habitat Limited Aquatic Community	High Quality Water	Hydropower Generation	Industry	Navigation	Outstanding Resource	Primary Contact (Recreation)	Public/Private Water Supply	Secondary Contact (Recreation)	Sensitive Water Supply	Trout Fishery	Warm Water Aquatic Community
OK120400010010_00	Arkansas River	R	9	2	2008		I	X						A	X	A		X	X				X
OK120400010030_00	Dog Branch Creek	R	5	3	2013		X	X							X			X					X
OK120400010040_00	Taylor Creek	R	4	3	2013		X	X							X			X					X
OK120400010050_00	Cedar Creek	R	5	3	2013		X	X							X			X					X
OK120400010060_00	Arkansas River	R	15	3	2008		I	X							X			X					X
OK120400010070_00	Webbers Falls Lake	L	11,600	5		2006	I	I		A				A	I	A		I					N
OK120400010080_00	Big Branch	R	2	3	2013		X	X							X			X					X
OK120400010090_00	Sulphur Branch	R	4	3	2013		X	X							X			X					X
OK120400010100_00	Greenleaf Creek	R	1	3	2013		X	X							X			X					X
OK120400010110_00	Little Greenleaf Creek	R	8	3	2013		X	X							X			X					X
OK120400010120_00	Greenleaf Creek	R	21	2		2009	A	A							A			X					A
OK120400010130_00	Greenleaf Lake	L	920	2	2008		A	I							I			I	I				I
OK120400010140_00	Deep Branch	R	5	3	2013		X	X							X			X					X
OK120400010150_00	Spaniard Creek	R	1	3	2013		X	X							X			X					X
OK120400010160_00	Spaniard Creek, East	R	6	3	2013		X	X							X			X					X
OK120400010170_00	Spaniard Creek, West	R	6	3	2013		X	X							X			X					X
OK120400010180_00	White Oak Creel	R	4	3	2013		X	X							X			X					X
OK120400010190_00	Gibson Hollow Creek	R	3	3	2013		X	X							X			X					X
OK120400010200_00	Bob Warren Creek	R	5	3	2013		X	X							X			X					X
OK120400010210_00	Spaniard Creek	R	12	3	2013		X	X							X			X					X
OK120400010220_00	Coal Creek	R	6	3	2013		X	X							X			X					X
OK120400010230_00	Star Oxbow Lake	L	1	3	2013		X	X							X			X					X
OK120400010240_00	Sand Creek	R	7	3	2013		X	X							X			X					X
OK120400010250_00	Salt Creek	R	4	3	2013		X	X							X			X					X
OK120400010260_00	Arkansas River	R	15	5		2009	I	A							A			N					I
OK120400010270_00	Bondinot Creek	R	8	3	2013		X	X							X			X					X

A = Attaining I = Insufficient Data N = Not Attaining X = Not Assessed

OKWBID	NAME	TYPE	SIZE (Lake Acres or Stream Miles)	CATEGORY	Monitoring Date	TMDL Date	Aesthetics	Agriculture	Cool Water Aquatic Community	Emergency Water Supply	Fish Consumption	Habitat Limited Aquatic Community	High Quality Water	Hydropower Generation	Industry	Navigation	Outstanding Resource	Primary Contact (Recreation)	Public/Private Water Supply	Secondary Contact (Recreation)	Sensitive Water Supply	Trout Fishery	Warm Water Aquatic Community
OK121610000080_00	Mud Creek	R	8	3	2016		X	X							X			X					X
OK121610000090_00	Pryor Creek	R	14	5		2009	A	A							A			I	X				N
OK121610000100_00	Salt Branch	R	6	3	2016		X	X							X			X					X
OK121610000120_00	Adair Creek	R	5	3	2016		X	X							X			X					X
OK121610000130_00	Bitter Creek	R	6	3	2016		X	X							X			X					X
OK121610000140_00	Osage Creek	R	5	3	2016		X	X							X			X					X
OK121610000150_00	Pryor Creek, Upper	R	25	3	2011		X	X							X					X			I
OK121610000160_00	Little Pryor Creek	R	12	3	2011		X	X							X			X					X
OK121610000170_00	Diver Creek	R	5	3	2016		X	X							X			X					X
OK121610000180_00	Chelsea Creek	R	1	3	2016		X	X							X			X					X
OK121610000190_00	Chelsea Creek, East	R	5	3	2016		X	X							X			X					X
OK121610000200_00	Chelsea Creek, West	R	4	3	2016		X	X							X			X					X
OK121700010010_00	Illinois River	R	10	3	2004		X	X							X			X					X
OK121700010020_00	Deep Branch	R	9	3	2013		X	X							X			X					X
OK121700010030_00	Larue Branch	R	5	3	2013		X	X							X			X					X
OK121700010040_00	Red Bird Smith Creek	R	8	3	2013		X	X							X			X					X
OK121700020010_00	Illinois River	R	21	3	2004		X	X							X			X					X
OK121700020020_00	Tenkiller Ferry Lake	L	6,450	5		2004	N	I						A	I			I	I				N
OK121700020030_00	Pine Creek	R	4	3	2013		X	X							X			X					X
OK121700020040_00	Sawmill Hollow Creek	R	5	3	2013		X	X							X			X					X
OK121700020050_00	Linder Bend Creek	R	2	3	2013		X	X							X			X					X
OK121700020060_00	Salt Branch	R	2	3	2013		X	X							X			X					X
OK121700020070_00	Burnt Cabin Creek	R	5	3	2013		X	X							X			X					X
OK121700020080_00	Dogwood Creek	R	2	3	2013		X	X							X			X					X
OK121700020090_00	Cato Creek	R	6	3	2013		X	X							X			X					X
OK121700020100_00	Snake Creek	R	3	3	2013		X	X							X			X					X
OK121700020110_00	Chicken Creek	R	5	5		2009	I	I							X			X					N
OK121700020130_00	Terrapin Creek	R	8	3	2013		X	X							X			X					X
OK121700020140_00	Sixshooter Creek / Branch	R	4	3	2013		X	X							X			X					X
OK121700020150_00	Sismore Creek	R	5	3	2013		X	X							X			X					X

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OKWBID	NAME	TYPE	SIZE (Lake Acres or Stream Miles)	CATEGORY	Monitoring Date	TMDL Date	Aesthetics	Agriculture	Cool Water Aquatic Community	Emergency Water Supply	Fish Consumption	Habitat Limited Aquatic Community	High Quality Water	Hydropower Generation	Industry	Navigation	Outstanding Resource	Primary Contact (Recreation)	Public/Private Water Supply	Secondary Contact (Recreation)	Sensitive Water Supply	Trout Fishery	Warm Water Aquatic Community
OK121700020160_00	Pettit Creek	R	4	3	2013		X	X							X			X					X
OK121700020170_00	Big Hollow Creek	R	3	3	2013		X	X							X			X					X
OK121700020180_00	Elk Creek	R	10	3	2013		X	X							X			X					X
OK121700020190_00	Dry Creek	R	10	3	2013		X	X							X			X					X
OK121700020200_00	Cave Springs Creek (Bolin Hollow)	R	6	3	2013		X	X							X			X					X
OK121700020210_00	Illinois River	R	8	2	2004		X	X	X					A	X			X	X				
OK121700020220_00	Tenkiller Ferry Lake, Illinois River Arm	L	6,450	2	2013		X	X						A	X			X	X				X
OK121700020230_00	Caney Creek	R	21	3	2013		X	X	X									X	X				
OK121700020240_00	Carters Creek	R	4	3	2013		X	X							X			X					X
OK121700020250_00	Mining Camp Hollow Creek, South	R	4	3	2013		X	X							X			X					X
OK121700020260_00	Dripping Spring Hollow Creek	R	4	3	2013		X	X							X			X					X
OK121700020270_00	Park Hill Branch	R	7	3	2013		I	I							X			X					I
OK121700020280_00	Manes Hollow Creek	R	3	3	2013		X	X							X			X					X
OK121700020290_00	Ross Hollow Creek	R	1	3	2013		X	X							X			X					X
OK121700020300_00	Illinois River	R	4	3	2004		X	X							X			X					X
OK121700020310_00	Illinois River, Baron Fork	R	1	3	2004		I	I							X			X					I
OK121700020320_00	Indian Meadows Creek	R	3	3	2013		X	X							X			X					X
OK121700020330_00	Indian Meadows Lake	L	1	3	2013		X	X							X			X					X
OK121700030010_00	Illinois River	R	8	5		2004	N	A	I		I				A			N	I				
OK121700030020_00	Tahlequah Creek	R	2	3	2004		X	X							X			X					X
OK121700030030_00	Stick Ross Creek (Ross Branch)	R	5	3	2013		I	I							X			X					I
OK121700030040_00	Tahlequah Creek (Town Branch)	R	6	5		2009	X	X	X								X	N	X				
OK121700030050_00	Red Oak Hollow Creek	R	3	3	2013		X	X							X			X					X
OK121700030060_00	Little Steely Hollow Creek	R	2	3	2013		X	X							X			X					X
OK121700030070_00	Briggs Hollow Creek, North	R	2	3	2013		X	X							X			X					X

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OKWBID	NAME	TYPE	SIZE (Lake Acres or Stream Miles)	CATEGORY	Monitoring Date	TMDL Date	Aesthetics	Agriculture	Cool Water Aquatic Community	Emergency Water Supply	Fish Consumption	Habitat Limited Aquatic Community	High Quality Water	Hydropower Generation	Industry	Navigation	Outstanding Resource	Primary Contact (Recreation)	Public/Private Water Supply	Secondary Contact (Recreation)	Sensitive Water Supply	Trout Fishery	Warm Water Aquatic Community
OK121700030080_00	Illinois River	R	32	2	2004		A	A							A			X					X
OK121700030090_00	Pumpkin Hollow Creek	R	9	3	2013		X	X							X			X					X
OK121700030100_00	Tully Hollow Creek (Burgen)	R	4	3	2013		X	X							X			X					X
OK121700030110_00	Cedar Hollow Creek	R	4	3	2013		X	X							X			X					X
OK121700030120_00	Steely Hollow Creek	R	3	3	2013		I	I							X			X					I
OK121700030130_00	Combs Hollow Creek	R	3	3	2013		X	X							X			X					X
OK121700030140_00	Telamay Hollow Creek	R	3	3	2013		I	I							X			X					I
OK121700030150_00	Molly Field Hollow Creek	R	3	3	2013		X	X							X			X					X
OK121700030160_00	Peavine Hollow Creek	R	3	3	2013		X	X							X			X					X
OK121700030170_00	Dog Hollow Creek	R	4	3	2013		X	X							X			X					X
OK121700030180_00	Scraper Hollow Creek	R	3	3	2013		X	X							X			X					X
OK121700030190_00	Kirk Springs Hollow Creek	R	3	3	2013		X	X							X			X					X
OK121700030200_00	Sawmill Hollow Creek	R	2	3	2013		X	X							X			X					X
OK121700030210_00	Falls Branch	R	5	3	2013		X	X							X			X					X
OK121700030220_00	Black Fox Hollow Creek	R	6	3	2013		X	X							X			X					X
OK121700030230_00	Winset Hollow Creek	R	5	3	2013		X	X							X			X					X
OK121700030240_00	Hasting Hollow Branch	R	3	3	2013		X	X							X			X					X
OK121700030250_00	Fall Branch	R	5	3	2013		X	X							X			X					X
OK121700030260_00	Luna Branch	R	5	3	2013		X	X							X			X					X
OK121700030270_00	Cherokee Mission Creek	R	3	3	2013		X	X							X			X					X
OK121700030280_00	Illinois River	R	15	5		2004	N	A							A			X					X
OK121700030290_00	Flint Creek	R	2	2	2013		A	A							A			X					X
OK121700030300_00	Kill Hollow Creek	R	4	3	2013		X	X							X			X					X
OK121700030310_00	Dripping Springs Branch	R	5	3	2013		X	X							X			X					X
OK121700030320_00	Rock Branch	R	3	3	2013		X	X							X			X					X
OK121700030330_00	Tate Parris Branch	R	4	3	2013		X	X							X			X					X
OK121700030340_00	Beaver Creek (Indiangrave Hollow)	R	2	3	2013		X	X							X			X					X
OK121700030350_00	Illinois River	R	5	5		2004	N	A	N		I						X	N	I				

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OKWBID	NAME	TYPE	SIZE (Lake Acres or Stream Miles)	CATEGORY	Monitoring Date	TMDL Date	Aesthetics	Agriculture	Cool Water Aquatic Community	Emergency Water Supply	Fish Consumption	Habitat Limited Aquatic Community	High Quality Water	Hydropower Generation	Industry	Navigation	Outstanding Resource	Primary Contact (Recreation)	Public/Private Water Supply	Secondary Contact (Recreation)	Sensitive Water Supply	Trout Fishery	Warm Water Aquatic Community
OK121700030360_00	Frances Lake	L	562	3	2013		X	X							X			X					X
OK121700030370_00	Ballard Creek	R	13	3	2004		X	X							X			X					X
OK121700040010_00	Caney Creek	R	2	5		2005	I	A	N		I				A			N	I				
OK121700040020_00	Negro Jake Hollow Creek	R	6	3	2013		X	X							X			X					X
OK121700040030_00	Tailholt Creek	R	4	3	2013		X	X							X			X					X
OK121700040040_00	Bidding Creek	R	6	3	2013		X	X							X			X					X
OK121700040050_00	Spade Creek	R	5	3	2013		X	X							X			X					X
OK121700040060_00	Spade Branch	R	4	3	2013		X	X							X			X					X
OK121700040070_00	Smith Hollow Creek	R	4	3	2013		X	X							X			X					X
OK121700040080_00	Goat Mountain Creek	R	4	3	2013		X	X							X			X					X
OK121700040090_00	Mulberry Hollow Creek	R	4	3	2013		X	X							X			X					X
OK121700050010_00	Illinois River, Baron Fork	R	23	5		2004	N	A	I		I						X	N	I				
OK121700050030_00	Welling Creek	R	3	3	2013		X	X							X			X					X
OK121700050040_00	Mining Camp Hollow Creek, North-North	R	3	3	2013		X	X							X			X					X
OK121700050050_00	Willow Branch	R	2	3	2013		X	X							X			X					X
OK121700050052_00	Field Hollow Creek	R	3	3	2013		X	X							X			X					X
OK121700050060_00	Briggs Hollow Creek, South	R	5	3	2013		X	X							X			X					X
OK121700050070_00	Walltrip Branch	R	6	3	2013		X	X							X			X					X
OK121700050080_00	Proctor Mountain Creek	R	4	3	2013		X	X							X			X					X
OK121700050090_00	Tyner Creek	R	15	2	2013		A	A							A			X					I
OK121700050100_00	South Proctor Creek, West	R	3	3	2013		X	X							X			X					X
OK121700050110_00	Dennison Hollow Creek	R	2	3	2013		X	X							X			X					X
OK121700050111_00	South Proctor Creek, East	R	4	3	2013		X	X							X			X					X
OK121700050120_00	Peacheater Creek	R	10	2	2008		A	A	I								X	X	X				
OK121700050130_00	Scraper Hollow Creek	R	5	3	2013		I	I	X								X	X	X				
OK121700050140_00	England Hollow Creek	R	6	3	2013		X	X	X								X	X	X				
OK121700050150_00	Green Creek	R	7	3	2013		X	X	X								X	X	X				
OK121700050160_00	Westville Lake	L	1	3	2013		X	X							X			X					X

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OKWBID	NAME	TYPE	SIZE (Lake Acres or Stream Miles)	CATEGORY	Monitoring Date	TMDL Date	Aesthetics	Agriculture	Cool Water Aquatic Community	Emergency Water Supply	Fish Consumption	Habitat Limited Aquatic Community	High Quality Water	Hydropower Generation	Industry	Navigation	Outstanding Resource	Primary Contact (Recreation)	Public/Private Water Supply	Secondary Contact (Recreation)	Sensitive Water Supply	Trout Fishery	Warm Water Aquatic Community
OK121700050170_00	Illinois River, Baron Fork	R	10	3	2004		I	X							X			X					X
OK121700050180_00	Shell Branch	R	8	4a	2008		I	I	I								X	X	X				
OK121700050190_00	Peavine Creek	R	8	3	2013		X	X							X			X					X
OK121700050200_00	Evansville Creek	R	13	3	2013		X	X	X								X	X	X				
OK121700050210_00	West Branch	R	1	3	2004		X	X							X			X					X
OK121700060010_00	Flint Creek	R	7	5		2004	N	A	I		I				A			N	I				
OK121700060020_00	Fivemile Hollow Creek	R	5	3	2013		X	X							X			X					X
OK121700060030_00	Calunchety Hollow Creek	R	4	3	2013		X	X							X			X					X
OK121700060040_00	Battle Creek (Battle Branch)	R	5	2	2013		I	I							X			X					A
OK121700060050_00	Blue Spring Branch	R	2	3	2013		X	X							X			X					X
OK121700060060_00	Hazelnut Hollow Creek	R	2	3	2013		X	X							X			X					X
OK121700060070_00	Crazy Creek (Glasby)	R	6	3	2013		X	X							X			X					X
OK121700060080_00	Flint Creek	R	5	3	2013		X	X	X		X						X	X	X				
OK121700060090_00	Sager Creek	R	1	5		2005	I	A	I						A			N	N				
OK121700060100_00	Fagan Creek	R	4	3	2013		X	X	X								X	X	X				
OK220100010010_00	Poteau River	R	21	3	2013		X	X			X				X			X	X				X
OK220100010010_10	Poteau River	R	2	3	2013		X	X			X				X			X	X				X
OK220100010010_20	Poteau River	R	9	3	2013		X	X			X				X			X	X				X
OK220100010010_30	Poteau River	R	2	3	2013		X	X			X				X			X	X				X
OK220100010010_40	Poteau River	R	27	5		2005	I	A			I				A			A	I				N
OK220100010020_00	Cedar Creek	R	3	3	2013		X	X							X			X					X
OK220100010030_00	Cedar Creek, Trib	R	2	3	2013		X	X				X			X					X			
OK220100010040_00	Holi-Tuska Creek	R	8	3	2013		X	X							X			X	X		X		X
OK220100010050_00	New Spiro Lake	L	254	5		2006	A	I							I			I	I				N
OK220100010060_00	Coal Creek	R	7	3	2013		X	X							X			X					X
OK220100010070_00	Poteau River, James Fork	R	17	3	2013		I	I							X			X	X				I
OK220100010080_00	Poteau River, James Fork, Trib	R	4	3	2013		X	X							X			X					X
OK220100010100_00	Brazil Creek	R	0	3	2013		X	X							X			X	X				X

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Appendix C
Category 5 Waterbodies

OKWBID	NAME	SIZE (Lake Acres or Stream Miles)	TYPE	Arsenic	Cause Unknown	Chlorides	Chromium	Copper	Lead	Low DO	Nitrate	Oil and grease	Pathogens	Pesticides	pH	Phosphorus	Selenium	Sulfates	TDS	Turbidity	Unknown toxicity	Zinc
OK120400010070_00	Webbers Falls Lake	11,600	L																	9000		
OK120400010250_00	Arkansas River	15	R										9000									
OK120400020030_00	Dirty Creek, South Fork	16	R							9000												
OK120410010080_00	Arkansas River	29	R										9000						9000			
OK120410010190_00	Bixhoma Lake	110	L							9000												
OK120410010210_00	Halkey Creek	11	R										9000	9000								
OK120420010010_00	Arkansas River	24	R						9000													
OK120420010030_00	Posey Creek	7	R											9000								
OK120420010050_00	Joe Creek	8	R		9000									9000								
OK120420010060_00	Fred Creek	3	R										9000	9000								
OK120420010070_00	Mosser Creek	4	R										9000	9000								
OK120420010090_00	Crow Creek	3	R		9000								9000	9000								
OK120420020160_00	Childres Creek	7	R			5500													5500			
OK121300010010_00	Bird Creek	24	R						9000	9000			9000							9000		
OK121300010060_00	Ranch Creek	7	R										9000									
OK121300010150_00	Delaware Creek	27	R			9000							9000	9000								
OK121300020080_00	Candy Creek	17	R										9000							9000		
OK121300030010_00	Bird Creek	25	R										9000							9000		
OK121300030040_00	Birch Lake	1,137	L							9000												
OK121300030200_00	Clear Creek	20	R										9000									
OK121300030230_00	Pawhuska Lake	96	L							9000												
OK121300030300_00	Bluestem Lake	762	L							9000										9000		
OK121300030320_00	Bird Creek, North	20	R										9000							9000		
OK121300040080_00	Skiatook Lake	10,190	L							9000												
OK121300040280_00	Hominy Creek	34	R			9000							9000						9000	9000		
OK121300040330_00	Hominy Municipal Lake	165	L							9000												
OK121400010010_10	Caney River	45	R						9000				9000							9000		

Impairment cause indicated by source code. *For more information on source codes, please see page 54.*

OKWBID	NAME	SIZE (Lake Acres or Stream Miles)	TYPE	Arsenic	Cause Unknown	Chlorides	Chromium	Copper	Lead	Low DO	Nitrate	Oil and grease	Pathogens	Pesticides	pH	Phosphorus	Selenium	Sulfates	TDS	Turbidity	Unknown toxicity	Zinc
OK121400010090_00	Rabb Creek	6	R																	9000		
OK121400010270_00	Curl Creek	17	R										9000									
OK121400010300_00	Hogshooter Creek	20	R		9000					9000			9000									
OK121400020090_00	Hudson Lake	250	L							9000												
OK121400020140_00	Little Caney River (Caney Creek)	6	R																	9000		
OK121400030170_00	Buck Creek	25	R										9000									
OK121400040010_00	Sand Creek	60	R										9000									
OK121400040050_00	Buck Creek	18	R																	9000		
OK121500010200_00	Verdigris River	6	R						9000				9000							9000		
OK121500020090_00	Bull Creek	19	R							9000			9000							9000		
OK121500020150_00	Adams Creek	20	R										9000									
OK121500020260_00	Verdigris River	18	R						9000													
OK121500020360_00	Dog Creek	10	R		9000					9000			9000									
OK121500020390_00	Cat Creek	7	R		200					9000			9000									
OK121500030010_00	Verdigris River	18	R						9000				9000									
OK121500040010_00	Dog Creek	20	R							9000										9000		
OK121510010020_00	Oologah Lake	29,460	L																	9000		
OK121510010040_00	Spencer Creek	10	R															5000 5700	5000 5700			
OK121510010110_00	Campbell Creek	5	R															5100 5700				
OK121510010120_00	Plumb Creek	8	R															5000 5700	5000 5700			
OK121510010130_00	Lightning Creek	17	R										9000					5100 5700	5100 5700			
OK121510010140_00	Panther Creek	8	R															5000 5700	5000 5700			
OK121510020010_00	Verdigris River	37	R						9000				9000							9000		
OK121510020050_00	California Creek	25	R							9000												
OK121510030010_00	Big Creek	34	R										9000									
OK121600010050_00	Fort Gibson Lake	9,950	L																	9000		
OK121600010060_00	Ranger Creek	11	R										9000									

Impairment cause indicated by source code. *For more information on source codes, please see page 54.*

OKWBID	NAME	SIZE (Lake Acres or Stream Miles)	TYPE	Arsenic	Cause Unknown	Chlorides	Chromium	Copper	Lead	Low DO	Nitrate	Oil and grease	Pathogens	Pesticides	pH	Phosphorus	Selenium	Sulfates	TDS	Turbidity	Unknown toxicity	Zinc
OK121600010100_00	Fourteenmile Creek	26	R										9000									
OK121600010430_00	Chouteau Creek	22	R							9000			9000							9000		
OK121600020050_00	Chimney Rock Lake	1	L							9000												
OK121600020070_00	Little Saline Creek	11	R										9000									
OK121600030020_00	Lake O' the Cherokees	5,813	L							9000												
OK121600030090_00	Drowning Creek	14	R							9000			9000							9000		
OK121600030160_00	Horse Creek	19	R							9000			9000		9000					9000		
OK121600030180_00	Fly Creek	4	R										9000									
OK121600030190_00	Little Horse Creek	6	R							9000			9000									
OK121600030320_00	Whitewater Creek	15	R							9000												
OK121600030340_00	Cave Springs Branch	13	R		200	9000							200 9050					9000	9000			
OK121600030440_00	Elk River	13	R										9000									
OK121600030445_00	Honey Creek	10	R										9050									
OK121600030510_00	Sycamore Creek	9	R										9000									
OK121600040040_00	Hudson Creek	8	R							9000										9000		
OK121600040060_00	Tar Creek	12	R						9000													
OK121600040130_00	Cow Creek	12	R							9000			9000							9000		
OK121600040170_00	Fourmile Creek	7	R							9000			9000							9000		
OK121600040200_00	Russell Creek	11	R							9000			9000									
OK121600050020_00	Spavinaw Lake	1,584	L							9000						9000						
OK121600050070_00	Eucha Lake (Upper Spavinaw)	2,860	L							9000						9000						
OK121600050160_00	Beaty Creek	13	R										9000									
OK121600060010_00	Big Cabin Creek	8	R																	9000		
OK121600060060_00	Little Cabin Creek	33	R										9000									
OK121600060200_00	Bull Creek	11	R							9000			9000					9000	9000	9000		
OK121600060240_00	Pawpaw Creek	18	R							9000			9000					9000	9000			
OK121600070010_00	Spring River	22	R						9000											9000		9000
OK121610000050_00	Pryor Creek	9	R							9000			9000									
OK121610000090_00	Pryor Creek	14	R							9000										9000		
OK121700020020_00	Tenkiller Ferry Lake	6,450	L							9000						9000						

Impairment cause indicated by source code. *For more information on source codes, please see page 54.*

OKWBID	NAME	SIZE (Lake Acres or Stream Miles)	TYPE	Arsenic	Cause Unknown	Chlorides	Chromium	Copper	Lead	Low DO	Nitrate	Oil and grease	Pathogens	Pesticides	pH	Phosphorus	Selenium	Sulfates	TDS	Turbidity	Unknown toxicity	Zinc
OK121700020110_00	Chicken Creek	5	R		9000																	
OK121700030010_00	Illinois River	8	R										9000			9000						
OK121700030040_00	Tahlequah Creek (Town Branch)	6	R										9000									
OK121700030280_00	Illinois River	15	R													9000						
OK121700030350_00	Illinois River	5	R										9000			9000				9000		
OK121700040010_00	Caney Creek	2	R										9000							9000		
OK121700050010_00	Illinois River, Baron Fork	23	R										9000			9000						
OK121700060010_00	Flint Creek	7	R										9000			9000						
OK121700060090_00	Sager Creek	1	R								9000		9000									
OK220100010010_40	Poteau River	27	R					9000	9000											9000		
OK220100010050_00	New Spiro Lake	254	L							9000												
OK220100020020_00	Wister Lake	7,333	L													9000						
OK220100020060_00	Cedar Lake	78	L							9000					9000							
OK220100030010_00	Brazil Creek	18	R			9000				9000			9000						9000	9000		
OK220100040020_00	Fourche Maline Creek	37	R						9000	9000			9000									
OK220100040050_00	Red Oak Creek	11	R							9000					9000			5800	5800	9000		
OK220100040100_00	Lloyd Church Lake (Wilburton City)	160	L							9000					9000					9000		
OK220100040150_00	Wayne Wallace Lake	94	L							9000												
OK220200020020_00	Robert S. Kerr Lake	43,800	L																	9000		
OK220200030040_00	Brushy Creek Lake	358	L							9000					9000							
OK220200030120_00	Stilwell City Lake	188	L							9000												
OK220200040010_40	Sans Bois Creek	28	R							9000			9000							9000		
OK220200040030_00	John Wells Lake (Stigler)	194	L							9000												
OK220200040050_00	Sans Bois Creek, Mountain Fork	19	R										9000		9000							
OK220600010070_00	Longtown Creek	26	R							9000			9000									
OK220600010100_20	Mill Creek	24	R							9000			9000		9000					9000		
OK220600010119_10	Canadian River	39	R															9000	9000	9000		
OK220600010150_00	Pond Creek	6	R			9000													9000			
OK220600020030_00	McAlester Lake	1,521	L												9000							
OK220600020050_00	Talawanda 2 Lake	195	L							9000					9000							

Impairment cause indicated by source code. *For more information on source codes, please see page 54.*