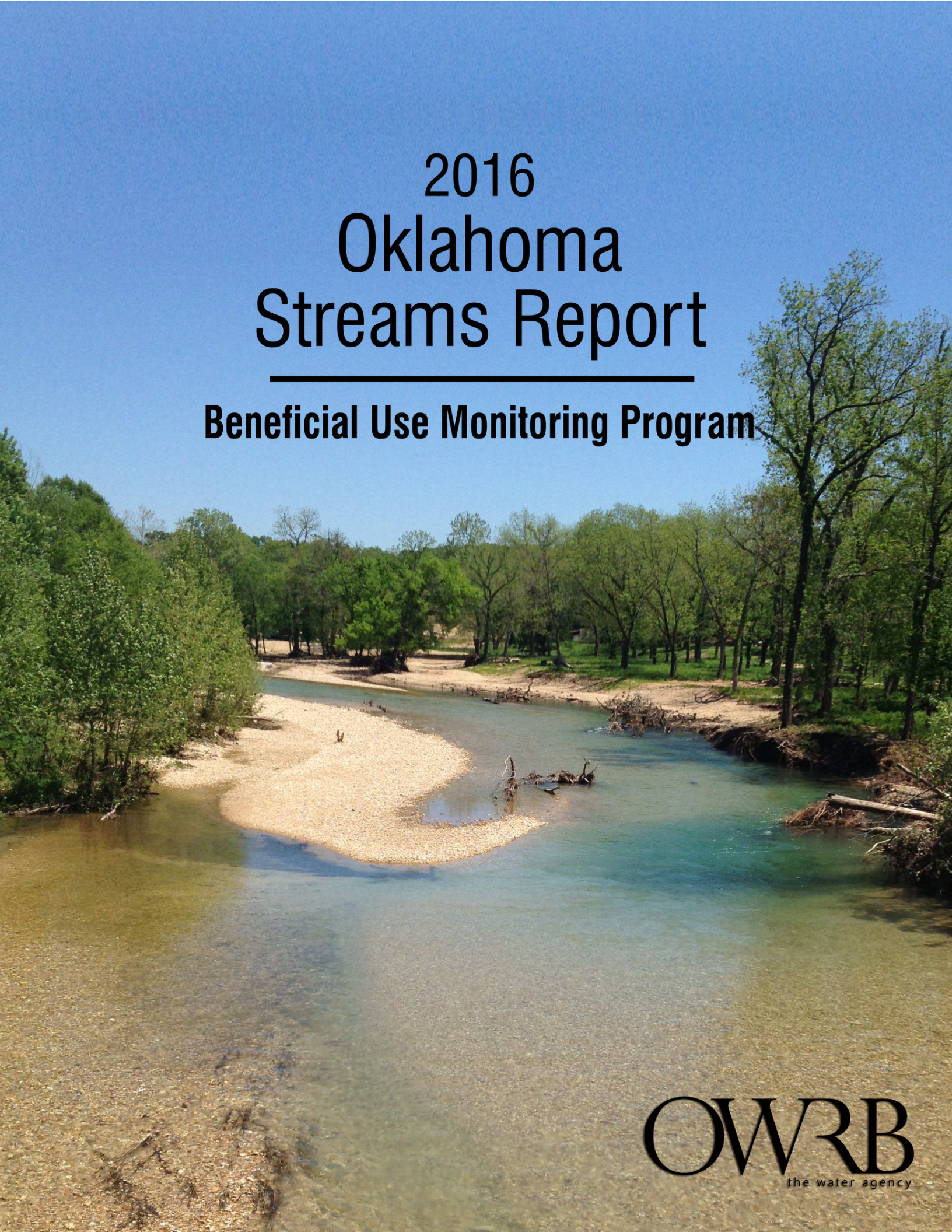
2016 Oklahoma Streams Report

Beneficial Use Monitoring Program



OWRB
the water agency

INTRODUCTION

It is the intent of this Oklahoma Water Resources Board (OWRB) report to advance concepts and principles of the Oklahoma Comprehensive Water Plan (OCWP). Consistent with a primary OCWP initiative, this and other OWRB technical studies provide invaluable data crucial to the ongoing management of Oklahoma's water supplies as well as the future use and protection of the state's water resources. Oklahoma's decision-makers rely upon this information to address specific water supply, quality, infrastructure, and related concerns. Maintained by the OWRB and updated every 10 years, the OCWP serves as Oklahoma's official long-term water planning strategy. Recognizing the essential connection between sound science and effective public policy, incorporated in the Water Plan are a broad range of water resource development and protection strategies substantiated by hard data – such as that contained in this report – and supported by Oklahoma citizens.

Protecting Oklahoma's valuable water resources is essential to maintaining the quality of life for all Oklahomans. Used for a myriad of purposes—such as irrigation, hydropower, public/private water supply, navigation, and a variety of recreational activities—the state's surface and groundwater provides enormous benefits to Oklahoma from both an economic and recreational standpoint.

The National Recreation Lakes Study Commission (NRLSC) estimates that 32,100 people in Oklahoma are employed in support of activities related to our numerous man-made lakes. Also according to the NRLSC, 18,718,000 visitor days are spent on Oklahoma lakes each year and recreation in and around these lakes contributes approximately $2.2 billion each year to Oklahoma's economy. Of additional value are the recreational benefits associated with our smaller municipal/watershed projects, Oklahoma Department of Wildlife lakes, and rivers and streams throughout the state, which infuse millions into state coffers through fishing, hunting, camping and related activities. (In 1987, the Oklahoma Comprehensive Outdoor Recreation Plan estimated that approximately $10.7 million was realized through camping and $15.2 million through hunting/fishing.[1]) According to a 2001 federal study, fishing activities alone contribute $476,019 dollars to Oklahoma's economy, not including the substantial ancillary costs associated with that extremely popular sport.[2]

In addition to surface waters, abundant groundwater also fuels the state's economy serving as supply for thousands municipalities, rural water districts, industrial facilities, and agricultural operations. According to the 2012 update of the Oklahoma Comprehensive Water Plan (OCWP), groundwater represents the primary water supply for approximately 300 cities and towns and comprises 43 percent of the total water used in the state each year.[3] Groundwater resources also supply approximately 90 percent of the state's irrigation needs, and around 8% of Oklahoma's citizens obtain their drinking water from private wells.

Oklahoma works to protect and manage its water resources through a number of initiatives, with the Oklahoma Water Quality Standards (OWQS) serving as the cornerstone of the state's water quality management programs. The Oklahoma Water Resources Board (OWRB) is designated

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[1] Oklahoma Statewide Comprehensive Outdoor Recreation Plan (SCORP), 1987.
[2] U.S. Department of Interior, Fish and Wildlife Service, and U.S. Department of Commerce, U.S. Census Bureau. *2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation.*
[3] Oklahoma Water Resources Board, *Update of the Oklahoma Comprehensive Water Plan, 1995*.

by state statute as the agency responsible for promulgating water quality standards and developing or assisting the other environmental agencies with implementation framework. State agencies are responsible for implementing the OWQS as outlined by the OWRB through development of Implementation plans. Protecting our waters is a cooperative effort between many state agencies and because the OWQS are utilized by all agencies and represent a melding of both science and policy, they are an ideal mechanism to assess the effectiveness of our diverse water quality management activities.

The OWQS are housed in OAC 785:45 and consist of three main components: beneficial uses, criteria to protect beneficial uses, and anti-degradation policy. An additional component, which is not directly part of the OWQS but necessary to water resource protection, is a monitoring program. A monitoring program is required in order to ensure that beneficial uses are maintained and protected. If uses are not being maintained, the cause of that impairment must be identified and restoration activities should be implemented to improve water quality such that it can meet its assigned beneficial uses.

All state agencies are currently required to implement Oklahoma's Water Quality Standards within the scope of their jurisdiction through the development of an Implementation Plan specific for their agency. This process, called OWQS Implementation, allows the OWQS to be utilized by other state agencies in the performance of their regulatory (statutory) responsibilities to manage water quality or to facilitate best management practice initiatives.

In the late 1990's, the need for a protocol to determine beneficial use impairment was identified, which would facilitate state agencies in directing their time and money to the areas in most need of protection or remediation. The OWRB, working in close concert with other state environmental agencies and other concerned parties developed Use Support Assessment Protocols (USAP) to be used by all parties for assessing if a water body was meeting its assigned beneficial uses. In addition, protocols were developed which could be coupled with a trend monitoring system to detect threatened waters before they become seriously impaired. Data collection efforts connected with protocol development and/or implementation also serves a vital purpose in refining numerical criteria currently included in the OWQS and in developing appropriate numerical and narrative criteria for future OWQS documents. It is essential that our waters meet assigned uses and that OWQS implementation protocols are appropriate. Please see the OWRB website for the applicable Oklahoma Administrative Code OAC 785:46 related to the USAP. Final approval of the USAP occurred in 2000 and the OWRB has constantly worked to refine the existing protocols and pursue the addition or modification of USAP protocols to further enhance its utility and effectiveness.

Work to be performed towards development and implementation of the critical fourth component of the OWQS program, monitoring, is the subject of this report. All sampling activities described and conducted as part of this program were consistent with the Oklahoma USAP. It is also important to note that they are consistent with Environmental Protection Agency (EPA) reporting requirements for the "*Integrated Water Quality Monitoring and Assessment Report"*, §319 Nonpoint Source (NPS) Assessment, and the §314 Lake Water Quality Assessment (LWQA).

Background & Problem Definition

The State of Oklahoma has historically had numerous monitoring programs conducted by several state and federal agencies. In general, each environmental agency conducts their monitoring programs with some degree of integration and coordination with other state,

municipal, or federal programs. Most water quality monitoring programs in Oklahoma are designed and implemented by each agency to collect information for one specific purpose or project (i.e. development of Total Maximum Daily Loads, OWQS process, lake trophic status determination, water quality impacts from point source dischargers, stream flow measurements, document success of best management practices, etc.). Information of this type is very specific to each individual project's data quality objectives (DQOs) and is often limited to a very small geographic area. This document describes sampling activities the OWRB has historically conducted on lakes and efforts that are currently on going on lakes and streams across Oklahoma as part of a comprehensive, long-term, statewide Beneficial Use Monitoring Program (BUMP). The goal of the BUMP is to detect and quantify water quality trends, document and quantify impairments of assigned beneficial uses, and identify pollution problems before they become a pollution crisis.

The state is taking a major step towards coordinating sampling activities with the creation of a "Water Quality Monitoring Council" comprised of representatives from state, local, and federal agencies as well as universities, industries, volunteer groups, Indian tribes, and environmental organizations. This Council as envisioned would serve a useful purpose in providing an avenue for communication between the various groups and will allow the state to coordinate water quality monitoring in a more effective manner. The Council will focus on coordinating agency activities and help the state avoid duplication of effort. Coordination between all concerned parties is obviously essential, but a comprehensive basic monitoring initiative to support the OWQS implementation process must be pursued to identify waters which are not meeting their assigned beneficial uses and thus ensure that Oklahoma's water resources are protected from water quality degradation. The Council will also be pivotal in ensuring consistency between data collection efforts. The Monitoring Council will function in a coordinating capacity, which will maximize monitoring efforts.

Beneficial Use and Monitoring Program Overview

The overall goal of the Beneficial Use Monitoring Program is to document beneficial use impairments, identify impairment sources (if possible), detect water quality trends, provide needed information for the OWQS, and facilitate the prioritization of pollution control activities.

Beneficial Use Monitoring Program Components

- **Monitoring Rivers & Streams** - The OWRB is currently monitoring approximately eighty-four (84) stations on a 6-week rotation. Fixed station monitoring is based largely upon the eighty-four (84) planning basins as outlined in the Oklahoma Comprehensive Water Plan (OCWP). In general, at least one (1) sample station was located at the terminal end of each of the planning basins. The OWRB also conducts on-going special studies as well as 25-30 probabilistic monitoring stations annually.
- **Fixed Station Load Monitoring** - The OWRB is currently working with several partners including the the USGS, US Army Corp of Engineers, Grand River Dam Authority, and National Weather Service to conduct flow monitoring on all of our fixed station sites that are not part of the Oklahoma/USGS Cooperative Gaging Network. This cooperative effort will allow for loadings to be calculated, trends to be assessed statewide, and provide much needed data for the Use Support Assessment process. Along with the USGS cost share program, Oklahoma's 319 program, Oklahoma's 314 program and the 303(d)-process will drive sample site locations associated with this task.

- **Fixed Station Lakes Monitoring** - As part of the Beneficial Use Monitoring Program, the Oklahoma Water Resources Board (OWRB) conducts sampling on lakes and reservoirs across the State of Oklahoma. To accomplish this task, the OWRB has taken a probabilistic survey approach for the lakes monitoring program. This survey design allows the state's objectives to be met as well as ensure various sized water bodies are represented adequately. The survey population includes all lakes above 50 surface acres, which encompasses approximately 206 different water bodies. The population is then stratified into two groups – lakes greater than 500 surface acres and those below 500 surface acres. The greater than 500 surface acres group includes 68 lakes, of which approximately one-fifth are monitored annually (quarterly samples) on a randomized draw. They are then monitored again during a subsequent year in the 5-year rotation, so that each lake greater than 50 surface acres is sampled 2 non-consecutive years during each 5 year rotation. The lakes managed by our Federal partners, the USACE and Bureau of Reclamation (BoR) are included in the 68 large lakes. Additionally, ten randomly drawn lakes of less than 500 surface acres are sampled annually (quarterly samples) over the 5 year sample frame. Many of these smaller lakes have not been sampled historically through the BUMP program and include small municipal water supplies.

  The OWRB works with other agencies, such as the US Army Corps of Engineers (USACE), for inclusion of additional information on water bodies managed by the Corps. Data collected consists primarily of water chemistry, nutrients, and chlorophyll-a information. In general, a minimum of three to five stations per reservoir is sampled depending on the size of the reservoir. Stations are located such that they represent the lacustrine, transitional, and riverine zones of the lake. On many reservoirs, additional sites are monitored, including major arms of the reservoir as appropriate. Water quality parameters have been added to the lakes sampling effort over the years to enhance program ability to make use support determinations.

- **Groundwater Monitoring and Assessment Program (GMAP)** – This new program was made possible as result of a $1,500,000 increase in funding received from the Oklahoma Legislature for water quality/quantity monitoring based on recommendations of the 2012 Update of the Oklahoma Comprehensive Water Plan. These additional monies were utilized to restore funding levels of the Beneficial Use Monitoring Program as well as to implement the new groundwater program. The new groundwater program prioritizes efforts on Oklahoma's 21 major groundwater aquifers and will continue to be phased in over the next 3 years. This baseline period will focus on 4-6 aquifers per year and will assess concentrations of nutrients, metals and major ion species. Water quality data will be collected from networks of wells on the basis of an aquifer's areal extent. This design feature generated sample populations of at least 30 wells for each of Oklahoma's 15 largest aquifers. Smaller aquifers are represented by fewer wells but proportionally have more sites per areal extent (Table 1).

Table 1. Sample Networks Based on Aquifer Areal Extent.

Areal Extent Category	Sample Site Well Density	Sample Sizes Generated
> 5000 km^2	1 well per 150 km^2 (6 Aquifers)	37 – 89
3001 – 5000 km^2	1 well per 100 km^2 (5 aquifers)	33 – 48
1501 – 3000 km^2	1 well per 75 km^2 (6 aquifers)	25 – 33
751 – 1500 km^2	1 well per 50 km^2 (2 aquifers)	16 – 19
≤ 750 km^2	2 aquifers	6 – 10

In the first year of sampling, 203 wells in 6 major aquifers were sampled for water quality and 299 wells for water level. When fully implemented, there will be 750 wells in the statewide groundwater quality network statewide. In addition, the OWRB's annual groundwater level measurement program will be doubled in capacity (from around 530 to 1100 wells) and will be spatially redistributed. Work began on expanding the groundwater level measurement program in January 2014 with the addition of 87 new wells to the program. For one-half of the water level network, manual measurements will become tri-annual events. In January 2014, 110 wells were added to the tri-annual measurement network. Additionally, over the 4-year baseline period, the OWRB plans to install 30-50 continuous water level recorders to obtain daily or hourly measurements that are more sensitive to detecting seasonal changes (brought on by drought or variable climate conditions) than can be obtained by annual measurements. Sixteen continuous water level recorders were installed in 8 aquifers across the state for this purpose in the first year of sampling.

- **Intensive Investigations** - If beneficial use impairment is identified or suspected, then all appropriate state agencies will be alerted and an investigation will be initiated to confirm if beneficial use impairment is occurring. If routine monitoring cannot definitively identify impairments, then an intensive study will be undertaken and if impairment is present, the source of the impairment will be identified, if possible. For example, monies could be spent to identify if high turbidity readings in rivers and streams are due to natural processes or do to human activities in the watershed of concern. Some potential causes of beneficial use impairment are; improper beneficial use or criteria (Oklahoma Water Resources Board jurisdiction), point source problems (Oklahoma Department of Environmental Quality or Oklahoma Department of Agriculture), non-point source problems (Oklahoma Conservation Commission, Oklahoma Department of Agriculture, Oklahoma Corporation Commission, or Oklahoma Department of Environmental Quality), oil and gas contamination (Oklahoma Corporation Commission), agricultural activities (Oklahoma Department of Agriculture), or mining activities (Oklahoma Department of Mines). All monitoring activities will be cooperative in nature with the agency with statutory authority assuming the lead role for intensive monitoring. If water bodies are not identified for intensive study as part of this task, then monies will be reallocated for routine monitoring of beneficial use attainment. Other entities (i.e. tribal or governmental units outside of Oklahoma) will be involved as appropriate. All intensive-monitoring activities will be consistent with the OWQS and the USAP. If no protocols exist, then best professional judgment or State/Environmental Protection Agency guidance is used as appropriate.

EXECUTIVE SUMMARY

It is the intent of this Oklahoma Water Resources Board (OWRB) report to advance concepts and principles of the Oklahoma Comprehensive Water Plan (OCWP). Consistent with a primary OCWP initiative, this and other OWRB technical studies provide invaluable data crucial to the ongoing management of Oklahoma's water supplies as well as the future use and protection of the state's water resources. Oklahoma's decision-makers rely upon this information to address specific water supply, quality, infrastructure, and related concerns. Maintained by the OWRB and updated every 10 years, the OCWP serves as Oklahoma's official long-term water planning strategy. Recognizing the essential connection between sound science and effective public policy, incorporated in the Water Plan are a broad range of water resource development and protection strategies substantiated by hard data – such as that contained in this report – and supported by Oklahoma citizens.

Beneficial Use Monitoring Program Goal

The goal of the Beneficial Use Monitoring Program is to document beneficial use impairments, identify impairment sources (if possible), detect water quality trends, provide needed information for the OWQS and facilitate the prioritization of pollution control activities.

The Beneficial Use Monitoring Program exists as a result of the vital economic and social importance of Oklahoma's lakes, streams, wetlands, and aquifers and the associated need for their protection and management. The data contained in this report is scientifically defensible and has been collected and analyzed following procedures outlined in Use Support Assessment Protocols (USAP), developed by Oklahoma's environmental agencies. Specifically, USAPs establish a consistent method to determine if beneficial uses assigned for individual waters through Oklahoma Water Quality Standards (OWQS) are being supported. (Legitimacy of data analyzed following protocols other than those outlined in the USAP must be defended.) If the BUMP report indicates that a designated beneficial use is impaired, threatened, or otherwise compromised, measures must be taken to mitigate or restore the water quality.

Traditionally, the State of Oklahoma has utilized numerous water monitoring programs conducted by individual state and federal agencies. In general, each environmental agency designs and implements its own program with only limited participation from with other state, municipal, or federal entities. These programs collect information for a specific purpose or project (e.g., development of Total Maximum Daily Loads, OWQS process, lake trophic status determination, water quality impact assessments from nonpoint and point source pollution, stream flow measurement, assessment of best management practices, etc.). Therefore, the information is specific to each project's data quality objectives (DQOs) and is often limited to a very small geographic area.

To synchronize Oklahoma's monitoring efforts related to water quality, the State Legislature appropriated funds in 1998 to create the Beneficial Use Monitoring Program under the direction of the Oklahoma Water Resources Board, who maintains Oklahoma's Water Quality Standards. The BUMP brings the OWRB's overall water quality management program full circle. From the promulgation of OWQS, to permitting and enforcement of permits stemming from OWQS-established criteria, to non-point source controls—all agency water quality management

activities are intended to work in concert to restore, protect, and maintain designated beneficial uses.

The specific objectives of the BUMP are to detect and quantify water quality trends, document and quantify impairments of assigned beneficial uses, and identify pollution problems before they become a pollution crisis. This report interprets current Oklahoma lake and stream data collected as part of the comprehensive, long-term program.

Beneficial Use Monitoring Program Components

- **Monitoring Rivers & Streams** - The OWRB is currently monitoring approximately eighty-four (84) stations on a 6-week rotation. Fixed station monitoring is based largely upon the eighty-four (84) planning basins as outlined in the Oklahoma Comprehensive Water Plan (OCWP). In general, at least one (1) sample station was located at the terminal end of each of the planning basins. The OWRB also conducts on-going special studies as well as 25-30 probabilistic monitoring stations annually.

- **Fixed Station Load Monitoring** – The OWRB is currently working with several partners including the USGS, US Army Corp of Engineers, Grand River Dam Authority, and National Weather Service to conduct flow monitoring on all of our fixed station sites that are not part of the Oklahoma/USGS Cooperative Gaging Network. This cooperative effort will allow for loadings to be calculated, trends to be assessed statewide, and provide much needed data for the Use Support Assessment process.

- **Fixed Station Lakes Monitoring** - As part of the Beneficial Use Monitoring Program, the Oklahoma Water Resources Board (OWRB) conducts sampling on lakes and reservoirs across the State of Oklahoma. To accomplish this task, the OWRB has taken a probabilistic survey approach for the lakes monitoring program. This survey design allows the state's objectives to be met as well as ensure various sized waterbodies are represented adequately. The survey population includes all lakes above 50 surface acres, which encompasses approximately 206 different waterbodies. The population is then stratified into two groups – lakes greater than 500 surface acres and those below 500 surface acres. The greater than 500 surface acres group includes 68 lakes, of which approximately one-fifth are monitored annually (quarterly samples) on a randomized draw. They are then monitored again during a subsequent year in the 5-year rotation, so that each lake greater than 50 surface acres is sampled 2 non-consecutive years during each 5 year rotation. The lakes managed by our Federal partners, the USACE and Bureau of Reclamation (BoR) are included in the 68 large lakes. Additionally, ten randomly drawn lakes of less than 500 surface acres are sampled annually (quarterly samples) over the 5 year sample frame. Many of these smaller lakes have not been sampled historically through the BUMP program and include small municipal water supplies.

  The OWRB works with other agencies, such as the US Army Corps of Engineers (USACE), for inclusion of additional information on waterbodies managed by the Corps. Data collected consists primarily of water chemistry, nutrients, and chlorophyll-a information. In general, a minimum of three to five stations per reservoir is sampled depending on the size of the reservoir. Stations are located such that they represent the lacustrine, transitional, and riverine zones of the lake. On many reservoirs, additional sites are monitored, including major arms of the reservoir as appropriate. Water quality parameters have been added to

the lakes sampling effort over the years to enhance program ability to make use support determinations.

Groundwater Monitoring and Assessment Program (GMAP) – This new program was made possible as result of the increase in funding received from the Oklahoma Legislature for water quality/quantity monitoring based on recommendations of the 2012 Update of the Oklahoma Comprehensive Water Plan. These additional monies were utilized to restore funding levels of the Beneficial Use Monitoring Program as well as to implement the new groundwater program. The new groundwater program prioritizes efforts on Oklahoma's 21 major groundwater aquifers and will continue to be phased in over the next 3 years. This baseline period will focus on 4-6 aquifers per year and will assess concentrations of nutrients, metals and major ion species. Sample size was predicated upon and proportional to the surface area of the aquifer with a general goal of 30 wells per aquifer. Some of the state's larger aquifers exceeded the goal and some of the smaller aquifers were represented by fewer wells Table 1. Sample Networks Based on Aquifer Areal Extent.

Areal Extent Category	Sample Site Well Density	Sample Sizes Generated
> 5000 km^2	1 well per 150 km^2 (6 aquifers)	37 – 89
3001 – 5000 km^2	1 well per 100 km^2 (5 aquifers)	33 – 48
1501 – 3000 km^2	1 well per 75 km^2 (6 aquifers)	25 – 33
751 – 1500 km^2	1 well per 50 km^2 (2 aquifers)	16 – 19
≤ 750 km^2	2 aquifers	6 – 10

When fully implemented, there will be 750 wells in the statewide groundwater quality network statewide. In addition, the OWRB's annual groundwater level measurement program will be doubled in capacity from around 530 to 1100 wells and will be spatially redistributed. Also over the 5-year baseline period, the OWRB plans to install 30-50 continuous water level recorders to obtain daily or hourly measurements that are more sensitive to detecting seasonal changes (brought on by drought or variable climate conditions) than can be obtained by annual measurements.

- **Intensive Investigations** - If beneficial use impairment is identified or suspected, then all appropriate state agencies will be alerted and an investigation will be initiated to confirm if beneficial use impairment is occurring. If routine monitoring cannot definitively identify impairments, then an intensive study will be undertaken and if impairment is present, the source of the impairment will be identified if possible. One potential use for the intensive studies envisioned was identified during the data analysis phase of this reporting process. For example, monies could be spent to identify if high turbidity readings in rivers and streams are due to natural processes or do to human activities in the watershed of concern. Some potential causes of beneficial use impairment are; improper beneficial use or criteria (Oklahoma Water Resources Board jurisdiction), point source problems (Oklahoma Department of Environmental Quality or Oklahoma Department of Agriculture), non-point source problems (Oklahoma Conservation Commission, Oklahoma Department of Agriculture, Oklahoma Corporation Commission, or Oklahoma Department of Environmental Quality), oil and gas contamination (Oklahoma Corporation Commission), agricultural activities (Oklahoma Department of Agriculture), or mining activities (Oklahoma Department of Mines). All monitoring activities will be cooperative in nature with the agency with statutory authority assuming the lead role for intensive monitoring. If water bodies are not identified for intensive study as part of this task, then monies will be reallocated for routine monitoring of beneficial use attainment. Other entities (i.e. tribal or governmental units outside of Oklahoma) will be involved as appropriate. All intensive-monitoring activities will

be consistent with the OWQS and the USAP. If no protocols exist, then best professional judgment or State/Environmental Protection Agency guidance is used as appropriate.

Program History/Overview

Sampling of the numerous lakes, streams, and rivers across this state was initiated in the summer and fall of 1998. Lake sampling in connection with the Beneficial Use Monitoring Program began in July of 1998. Sampling on numerous streams and rivers began in earnest in November of the same year. The two sampling programs, one for lakes and one for streams had separate starting dates for a number of reasons. First, the OWRB has been conducting a lake-sampling program during the warmer summer months since 1990 as part of the Federal Clean Lakes Program. This historical lake sampling program was funded through federal dollars with the express purpose of determining lake trophic status. The trophic status of a reservoir can range from oligotrophic (low biological productivity) to hyper-eutrophic (excessive biological productivity). In general, the more productive a reservoir, the more water quality problems it is likely to experience. Federal dollars to fund this trophic state assessment of our state's lakes were discontinued in 1994. At that time, the OWRB searched for other funding sources, and through working with the Secretary of the Environment and the Oklahoma Conservation Commission, the Water Board was able to obtain a onetime federal 319 nonpoint source grant to continue the lake trophic state assessment program. The OWRB subsequently initiated a quarterly lake sampling program in the spring of 1998 and was able to roll the existing lake program into the BUMP.

For streams, no such comprehensive, statewide sampling effort was ongoing at the time the BUMP was funded. Because of this, the OWRB required a number of months to re-allocate staff and implement a monitoring regime on streams. In addition, OWRB staff greatly desired input from the other environmental agencies on the placement of stream monitoring stations. The existence of a previous statewide stream-monitoring network greatly aided in sample site selection. This historical ambient trend stream-monitoring network existed from 1975 until 1993 and was implemented by the Oklahoma State Health Department. Although this program did not evaluate sample results through comparison with the OWQS criteria or determine use support, it did provide a framework upon which to build. The historical sampling network sampled streams on a monthly basis from 1975-1986 and on a semi-annual basis from 1987-1993. Based upon the historical program and input from other agencies, the OWRB has established an ambient monitoring network of 100 active permanent stations with numerous rotational sites. Both the permanent and rotational networks are evaluated annually to determine if any stations should be dropped and others added. The Water Resources Board relies heavily on the other state and federal agencies for input into this process. In addition, monitoring personnel with the OWRB work closely with the other state environmental agencies to avoid duplication of sampling effort (i.e. the Oklahoma Conservation Commission rotating and data gaps sampling initiatives), except on a very limited basis for quality assurance purposes. A very small number of sites that are duplicative in nature do allow for the comparison of results between sampling programs to ensure that sampling protocols and the Use Support Assessment Protocols (USAP - described below) are working effectively and that decisions on support status are being made in a consistent manner.

The OWRB has developed Use Support Assessment Protocols (USAP) for lakes and streams, which are essential if the state is to be consistent in identifying waters that are not meeting their assigned beneficial uses or are threatened. The Water Resources Board has incorporated the USAP into Oklahoma Administrative Code (OAC) 785:46 to ensure that consistent determinations for impairments are made by all of the monitoring agencies.

The state must follow consistent procedures for listing waters as impaired. Using the OWRB Use Support Assessment Protocols, it was possible for OWRB staff to assess whether threats or impairments are present in our waterways. With continued funding, identification of impaired waters will be accomplished on additional waters.

Results of Sampling Efforts

It is essential that Oklahoma quantify impacts in a comprehensive and scientific manner and look for trends in water quality to identify waters that are not meeting their assigned beneficial uses. As a state, we must manage our water resources effectively and direct money to areas in most need of protection or remediation to ensure that we continue to have good quality and sufficient quantity of water to meet our needs well into the 21st century. Comprehensive statewide data sets on rivers, streams and lakes for accurately assessing beneficial use impairments have not existed since 1993. With the implementation of monitoring on a large scale in October of 1998, this is no longer the case. With the availability of data, it is the desire of the Oklahoma Water Resources Board to provide the legislature and professional water managers with a comprehensive and up-to-date document for their review and approval. Administrative and Technical staff at the OWRB look forward to conducting the Beneficial Use Monitoring Program far into the future and providing the state of Oklahoma with the information it needs to make informed decisions that allow us to effectively manage our precious water resources.

Every two years, the OWRB analyzes data collected by BUMP and that data are used to identify if the waters of the state are meeting their assigned beneficial uses. If the stream/river segment is not meeting its beneficial use it is submitted for inclusion on the EPA's 303d list. The latest EPA approved 303d list of impaired waters can be found on the Oklahoma Department of Environmental Quality's website. Oklahoma's 303d list

STREAM MONITORING PROGRAM

The Stream Beneficial Use Monitoring Program (BUMP) was initiated in November of 1998. BUMP streams staff began collecting monthly data in November of 1998 and throughout the years has changed from monthly sampling to bi-monthly sampling depending on program needs. Beginning in 2013, a six-week sampling cycle was implemented. Each stream station is described individually with information outlining the site location and other pertinent information followed by a brief synopsis of data results. All of the sites are listed at this hyperlink, current permanent monitoring sites.

River and Stream Monitoring HISTORIC Overview

Historically, the collection of data on rivers and streams across the state has been inconsistent. Over the years, various local, tribal, state, and federal agencies managed a number of sampling programs for different purposes. These programs have varied in nature ranging from site-specific, short-term monitoring to broad, statewide sampling, such as the one conducted by the former Oklahoma State Department of Health (OSDH). When OSDH stopped their monthly sampling program in 1989 it created a void in the dataset and the need for a new, comprehensive, statewide ambient trend monitoring program. In addition, Oklahoma lacked a program with the specific capability of documenting statewide beneficial use impairments on a long-term basis. The Beneficial Use Monitoring Program (BUMP) was created to fulfill these goals. By establishing a monitoring network that evaluates general water quality through the use of an existing framework like the Oklahoma Water Quality Standards (OWQS), the state of Oklahoma initiated a progressive phase in the long-term assessment of the overall health of our state's streams and rivers.

Materials & Methods

The Monitoring Network: The BUMP rivers and streams network consists of three major station classifications — permanent ambient trend, rotating, and statistical survey sites. Permanent ambient trend monitoring stations are relatively static within the program. In general, they do not change from year to year and were chosen to allow for long-term assessment of beneficial uses and water quality trends. Since program inception, a small number of sites have been dropped and new sites have been added to more effectively assess the water quality of our major stream basins. Statistical survey stations are selected at random every two years and visited once or twice during biological index periods. Rotating stations are selected for specific purposes and typically have a finite lifespan.

With the creation of the permanent monitoring network, OWRB staff established three overarching objectives for the program.

First, the network must encompass the entire state. To accomplish this, a commitment was made to locate at least one site in each of the 8-digit USGS hydrologic units (HUC; Table 1) (Map).

Table 1. Eight Digit United States Geological Survey HUC Watersheds.

8 Digit HUC Number	Description	8 Digit HUC Number	Description
11040001	Cimarron Headwaters	**11100301**	Middle North Canadian
11040002	Upper Cimarron	**11100302**	Lower North Canadian
11040006	Upper Cimarron – Liberal	**11100303**	Deep Fork
11040007	Crooked	**11110101**	Polecat – Snake
11040008	Upper Cimarron – Bluff	**11110102**	Dirty – Greenleaf
11050001	Lower Cimarron – Eagle Chief	**11110103**	Illinois
11050002	Lower Cimarron – Skeleton	**11110104**	Robert S. Kerr Reservoir
11050003	Lower Cimarron	**11110105**	Poteau
11060001	Kaw Lake	**11120105**	Lower Prairie Dog Town Fk., Red
11060002	Upper Salt Fork – Arkansas	**11120202**	Lower Salt Fork – Red
11060003	Medicine Lodge	**11120302**	Middle North Fork – Red
11060004	Lower Salt Fork – Arkansas	**11120303**	Lower North Fork – Red
11060005	Chickaskia	**11120304**	Elm Fork – Red
11060006	Black Bear – Red Rock	**11130101**	Groesbeck – Sandy
11070103	Middle Verdigris	**11130102**	Blue – China
11070105	Lower Verdigris	**11130201**	Farmers – Mud
11070106	Caney	**11130202**	Cache
11070107	Bird	**11130203**	West Cache
11070205	Middle Neosho	**11130208**	Northern Beaver
11070206	Grand Lake	**11130210**	Lake Texoma
11070207	Spring	**11130301**	Washita Headwaters
11070208	Elk	**11130302**	Upper Washita
11070209	Lower Neosho	**11130303**	Middle Washita
11090103	Rita Blanca	**11130304**	Lower Washita
11090201	Lower Canadian – Deer	**11140101**	Bois D'Arc – Island
11090202	Lower Canadian – Walnut	**11140102**	Blue
11090203	Little	**11140103**	Muddy Boggy
11090204	Lower Canadian	**11140104**	Clear Boggy
11100101	Upper Beaver	**11140105**	Kiamichi
11100102	Middle Beaver	**11140106**	Pecan – Waterhole
11100103	Coldwater	**11140107**	Upper Little
11100104	Palo Duro	**11140108**	Mountain Fork
11100201	Lower Beaver	**11140109**	Lower Little
11100203	Lower Wolf		

Second, the foundation of the monitoring network should focus on the state's largest rivers, the Arkansas River and the Red River, and their major tributaries, such as the Canadian River and the Washita River. Consideration was given to the major tributaries of rivers such as the Canadian River and the Little River. Further consideration was also given to areas of the state (e.g., the Panhandle) that were underrepresented as well as rivers and streams (e.g., the Deep Fork River) that were conspicuously missing from the network.

Third, the advice and input of other state environmental agencies and professionals was sought before making a final determination of permanent monitoring station locations. In particular, the Oklahoma Department of Environmental Quality (ODEQ) and the Oklahoma Conservation Commission (OCC) have been, and continue to be very helpful in assisting with locating permanent stations.

Operating within these overarching objectives, the staff of the OWRB selected and performed monitoring on 130 permanent ambient trend monitoring sites since September of 1998. Beginning in January 2013, the OWRB adjusted the monitoring network to more closely align with the needs of the Oklahoma Comprehensive Water Plan. The goal was to put a permanent station at the outflow of all 82 water planning basins (Map), while maintaining a small network of reference condition sites. Along with the redesigned network, the frequency of sampling was increased from 6 samples per year to 8 samples per year.

The placement of a site location necessitates several considerations. First, a site must be accessible by vehicle and be safe for sampling personnel and other motorists. Second, the site must be located in an area where representative data can be acquired. The OWQS Use Support Assessment Protocols (USAP) sets spatial limitations on the data that is collected. Essentially, a site can only represent twenty-five stream miles for non-wadeable streams and ten stream miles for wadeable streams (with some exceptions). Furthermore, a site can only be representative of the water body identification number (12-digit HUC number) in which it is located and the site cannot be located within a regulatory mixing zone. This requires monitoring sites be selected in a way which represents as long a stream reach as possible while still maintaining the spatial integrity outlined in USAP. Thirdly, it is important that historical data be considered. Many of the BUMP permanent monitoring sites were selected from a set of historical stations which were previously used in the OSDH statewide monitoring program (when OSDH dissolved it became part of the ODEQ Ambient Trend Monitoring Program). Before initial sampling began in 1998, OWRB staff worked closely with the ODEQ to integrate many of the historical sites into BUMP. Although the historical data from these sites cannot be used to assess beneficial uses (USAP sets a temporal limitation of five years), the historical data set benefits the state in assessing long-term water quality trends. Lastly, it is imperative that rivers and streams which have been designated in the OWQS as Outstanding Resource Waters (ORW), High Quality Waters (HQW), or Sensitive Water Supplies (SWS) be given unique consideration even if they do not meet the objectives as outlined. The water quality status of each site is discussed in more detail in the individual site pages.

The goal of the rotating portion of the program is to provide short-term assessments on priority waters as identified by a state agency or other party. Two general objectives were identified to aid in the determination of what would qualify as a rotating site. First, it should be determined that data collection at a particular site should be short-term in nature and not extend past one sampling year, although some stations do remain in the network for up to two years. Data collected within that year should allow water quality managers to make the appropriate decisions regarding the segment being monitored. For instance, if a stream reach is listed as impaired on the 303(d) list due to pH, measuring pH throughout one year should allow the requesting agency or entity to either de-list the segment or determine what other monitoring efforts are necessary. Secondly, the monitoring should fall within the framework of the USAP. Since the inception of the program, the staff of OWRB has met individually with representatives of other state agencies to identify their priority short-term monitoring needs. Once the OWRB receives a list of waters for monitoring from the interested agencies, staff evaluates the nominations and notifies the nominating agency of which waters would be monitored (to date, all of the waters requested for monitoring have been accommodated). In all, over 220 monitoring stations have been or are currently being monitored. In most instances, the segments were listed for one or more variables on the state's 303(d) list. For a comprehensive list of historic and/or current rotational monitoring stations, please contact the Oklahoma Water Resources Board/Water Quality Programs Division at (405) 530-8800.

Statistical survey monitoring is a unique study design for which monitoring stations across the state are selected at random. The OWRB has been actively involved in this type of monitoring since 2004. The latest probabilistic data report is titled "Statewide Stream/River Probabilistic Monitoring Network for the State of Oklahoma from 2008-2011" and can be found under "Water Quality Monitoring" on the reports page of the OWRB website at www.owrb.ok.gov/reports.

Stream Monitoring Variables: The variables being monitored were chosen to reflect both objectives of the programs — assessment of beneficial uses within the framework of USAP as well as the assessment of general water quality. Even though a variable may not be listed in the OWQS with a specific criterion (e.g., hardness), the variable is an important constituent in analyzing and understanding the general water quality of a particular segment. See
2 for a list of monitoring variables.

Data for general water quality, nutrient, metals, organics, chlorophyll-a, and bacteriological variables are collected in one of two ways. Some variables are monitored in-situ utilizing a YSI or EXO multi-probe instrument. The data are uploaded from the instrument to a data logger, transferred manually to a field log sheet, and downloaded to the OWRB monitoring database. These variables include dissolved oxygen (D.O.), %D.O. saturation, water temperature, pH, salinity, total dissolved solids, and specific conductance. Data for all other variables are gathered from water quality samples collected at the station. When the flow of a channel is approximately 1.5 ft/s or greater, samples are collected using a depth-integrated method. Samples at non-wadeable sites are collected by lowering a depth-integrated sampler (DH-95 with polyethylene collection bottle) from a bridge, through the water column at equal width increments across the channel. Samples at wadeable sites are collected with a DH-81 wadeable depth-integrated sampler (polyethylene collection bottle) through the water column at equal width increments. When the flow of the channel is less than 1.5 ft/s, a grab composite sample is collected. Non-wadeable sites are collected by lowering a weighted bottle sampler with a 1-L bottle under the surface of the channel. Wadeable sites are collected using a whirl-pak inside of a 1-L collection bottle and submerging the bottle under the water. Equal width increments are used in both wadeable and non-wadeable sites to get an accurate representation of the channel. Grab samples are conducted if the channel is a series of

disconnected pools. If sampling occurs from a bridge, the sampling typically is done on the down-stream side of the bridge. The sampling methods used are described in detail in the Collecting Water Quality Samples SOP. From this water sample, water quality variables are monitored in several ways. For laboratory analysis of general water quality variables and nutrients, water is aliquoted, as outlined in the SOP, into two, 1L bottles (one for sulfuric acid/ice preservation and one for ice preservation). If a metals analysis is necessary, water is collected at the thalwag of the channel into a 250mL bottle and preserved with nitric acid for a total recoverable metals panel, or filtered and preserved with nitric acid for a dissolved metals panel, as per standard operating procedures guidelines. Sample water for the determination of nephelometric turbidity, total hardness, and total alkalinity is also aliquoted from the remainder of the general chemistry sample water. Nephelometric turbidity is determined through use of a HACH portable turbidimeter. Total hardness and alkalinity are determined using HACH test kits. All instruments and test kits are calibrated and used according to manufacturer's instructions. Sestonic chlorophyll-a samples are also collected from the composited water sample and are filtered through a glass fiber filter, treated with a buffering agent and frozen until delivered to the State Environmental Laboratory. Organics have an increased affinity for polypropylene, and allowing sample water to contact polypropylene bottles or other collection equipment may cause concentrations to be significantly underestimated. Therefore, when organics analyses are required, water is collected using a 1-Liter Teflon bottle and composited into a 2-gallon glass bottle. The laboratory sample is aliquoted by inverting the glass bottle 10 times and dispensing to one-quart or one-pint clear or amber glass jars depending on the type of organic analysis. The samples are placed on ice for preservation. Bacteriological samples are collected using a composite grab sample method and are aliquoted to two 100mL bacteria bottles for laboratory analysis.

Biological data are collected using a variety of methods. Typically, fish are collected using electrofishing methods. Alternatively, a seine net is used to collect fish when conductivity is not conducive to electrofishing. Benthic macroinvertebrates are collected by targeting the richest habitats in the water body, which includes riffles, streamside vegetation, and woody debris. Collections are then shipped to an outside lab where a subsample is taken for taxonomic analysis. Various habitat measures are also included during each biological sampling event. During fish collections, staff conduct habitat assessments derived from standard EPA methods and collect both quantitative and qualitative measurements on in-stream and riparian characteristics. During macroinvertebrate collections, habitat assessment is focused on determining target habitat type and substrate composition. Benthic chlorophyll-a samples are gathered from the characteristic substrates of the stream.

Table 2. Variables Monitored by the BUMP Stream Sampling Program.

SAMPLE VARIABLES		
General Water Quality Variables – Sampled 6 times annually		
Dissolved Oxygen (D. O.)	pH	Specific Conductance
Temperature	Total Dissolved Solids	% D. O. Saturation
Salinity	Total Alkalinity	Total Hardness
Chloride	Nephelometric Turbidity	Sulfate
Nutrients – Sampled 6 times annually		
*Kjeldahl Nitrogen	Ammonia Nitrogen	Total Phosphorus

SAMPLE VARIABLES		
*Nitrate Nitrogen	*Nitrite Nitrogen	
Metals – Sampled as needed		
Arsenic	Cadmium	Chromium
Copper	Lead	Mercury
Nickel	Selenium	Silver
Zinc	Thallium	
Organics – Site specific sampling as needed		
Analysis of Pesticides, Herbicides, Fungicides, and other organics		
Bacteriological Communities – Sampled 5-10 times annually (during recreational season)		
Enterococci	*Escherichia coli*	
Biological Communities – Sampled as described below		
Sestonic Chlorophyll-a (8 times annually	Benthic Chlorophyll-a (as needed during summer)	Fish (once every 4-5 years)
Benthic Macroinvertebrates (1 collection in the summer annually)	Habitat (sampled with fish and macroinvertebrate sampling)	

*Total nitrogen is calculated by OWRB staff, based upon concentrations for these compounds

For a more detailed discussion of water quality sampling procedures, please contact the OWRB for copy of the BUMP Standard Operating Procedures (SOP). The SOP document can be obtained by contacting the Oklahoma Water Resources Board/Water Quality Programs Division at (405) 530-8800 or by accessing and downloading the document via the web at the following link. Streams SOP's

Quality Assurance/Quality Control (QA/QC): QA/QC will not be discussed in detail in this report. However, for a comprehensive description of field QA/QC methods, please contact the Oklahoma Water Resources Board/Water Quality Programs Division at (405) 530-8800. For laboratory QA/QC methods please contact the Oklahoma Department of Environmental Quality/Customer Services Division at (405) 702-6100. Comprehensive QA/QC has been performed on all data collected and utilized for this report.

It is also imperative that the state continues to refine the minerals criteria found in OAC 45: Appendix F. The process was begun in earnest in 2005 with a major revision to Appendix F criteria, and the assessments in this report reflect these new criteria. However, some management segment values are still extrapolated from minimum data and from stations not necessarily representative of the entire management segment. By using the OWRB's methodology for the development of site-specific minerals criteria, BUMP data as well as other water quality monitoring program data may be used to refine inconsistent criteria.

RESULTS AND DISCUSSION

It is essential that Oklahoma quantify impacts in a comprehensive and scientific manner and look for trends in water quality to identify waters that are not meeting their assigned beneficial

uses. As a state, we must manage our water resources effectively and direct money to areas in most need of protection or remediation to ensure that we continue to have good quality and sufficient quantity of water to meet our needs well into the 21st century. It is the desire of the Oklahoma Water Resources Board to provide the legislature, the general public and professional water managers with a comprehensive and up-to-date document for their review and approval. Administrative and Technical staff at the OWRB look forward to conducting the Beneficial Use Monitoring Program far into the future and providing the state of Oklahoma with the information it needs to make informed decisions related to the effective management of its precious water resources.

Every two years, the OWRB analyzes data collected by BUMP and uses that data to determine if the waters of the state are meeting their assigned beneficial uses. If the stream/river segment is not meeting its beneficial use it is submitted for inclusion on the EPA's 303(d) list. The latest EPA approved 303(d) list of impaired waters can be found on the Oklahoma Department of Environmental Quality's website. Oklahoma's 303d list

Guide to Interpreting Ambient Water and Effluent Variables (ILMB, BC 1998)

The following guide defines each variable, discusses the importance of the variable to the aquatic environment and lists potential anthropogenic sources.

Temperature

Definition: This is a measurement of the intensity (not amount) of heat stored in a volume of water. Surface water temperatures naturally range from 0°C under ice cover to 40°C in hot springs. Natural sources of heat include: solar radiation, transfer from air, condensation of water vapor at the water surface, sediments, precipitation, surface runoff and groundwater. Temperature is the primary influencing factor on water density.

Importance: Temperature affects the solubility of many chemical compounds and can therefore influence the effect of pollutants on aquatic life. Increased temperatures elevate the metabolic oxygen demand, which in conjunction with reduced oxygen solubility, impacts many species. Vertical stratification patterns that naturally occur in lakes affect the distribution of dissolved and suspended compounds.

Anthropogenic sources: industrial effluents, agriculture, forest harvesting, urban developments, mining.

Turbidity

Definition: This is a measurement of the suspended particulate matter in a water body which interferes with the passage of a beam of light through the water. Materials that contribute to turbidity are silt, clay, organic material, or micro-organisms. Turbidity values are generally reported in Nephelometric Turbidity Units (NTU). Pure distilled water would have non-detectable turbidity (0 NTU). The extinction depth (for lakes), measured with a Secchi disc, is an alternative means of expressing turbidity.

Importance: High levels of turbidity increase the total available surface area of solids in suspension upon which bacteria can grow. High turbidity reduces light penetration; therefore, it impairs photosynthesis of submerged vegetation and algae. In turn, the reduced plant growth may suppress fish productivity. Turbidity interferes with the disinfection of drinking water and is aesthetically unpleasant.

Anthropogenic sources: forest harvesting, road building, agriculture, urban developments, sewage treatment plant effluents, mining, industrial effluents.

pH

Definition: This is the measurement of the hydrogen-ion concentration in the water. A pH below 7 is acidic (the lower the number, the more acidic the water, with a decrease of one full unit representing an increase in acidity of ten times) and a pH above 7 (to a

maximum of 14) is basic (the higher the number, the more basic the water). Fresh waters have a pH range from 5.5 in southeast Oklahoma to nearly 9.0 in central Oklahoma,

Importance: Higher pH values tend to facilitate the solubilization of ammonia, heavy metals and salts. The precipitation of carbonate salts (marl) is encouraged when pH levels are high. Low pH levels tend to increase carbon dioxide and carbonic acid concentrations. Lethal effects of pH on aquatic life occur below pH 4.5 and above pH 9.5.

Anthropogenic sources: mining, agriculture, industrial effluents, acidic precipitation (derived from emissions to the atmosphere from cars and industry).

Dissolved Oxygen (DO)

Definition: This is a measure of the amount of oxygen dissolved in water. Typically the concentration of dissolved oxygen in surface water is less than 10 mg/L. The DO concentration is subject to diurnal and seasonal fluctuations that are due, in part, to variations in temperature, photosynthetic activity and river discharge. The maximum solubility of oxygen (fully saturated) ranges from approximately 15 mg/L at 0°C to 8 mg/L at 25°C (at sea level). Natural sources of dissolved oxygen are derived from the atmosphere or through photosynthetic production by aquatic plants. Natural re-aeration of streams can take place in areas of waterfalls and rapids.

Importance: Dissolved oxygen is essential to the respiratory metabolism of most aquatic organisms. It affects the solubility and availability of nutrients, and therefore the productivity of aquatic ecosystems. Low levels of dissolved oxygen facilitate the release of nutrients from the sediments. Oligotrophic (low nutrient) lakes tend to have increased concentrations of dissolved oxygen in the hypolimnion (deeper waters) relative to the epilimnion (defined as orthograde oxygen profiles). Eutrophic (high nutrient) lakes tend to have decreased concentrations of dissolved oxygen in the hypolimnion relative to the epilimnion (defined as clinograde oxygen profiles).

Anthropogenic causes of decreased DO: forest harvesting, pulp mills, agriculture, sewage treatment plant effluent, industrial effluents, impoundments (dams).

Hardness, total

Definition: The hardness of water is generally due to the presence of calcium and magnesium in the water. Other metallic ions may also contribute to hardness. Hardness is reported in terms of calcium carbonate and in units of milligrams per litre (mg/L). Waters with values exceeding 120 mg/L are considered hard, while values below 60 mg/L are considered soft.

Importance: Harder water has the effect of reducing the toxicity of some metals (i.e., copper, lead, zinc, etc.). Soft water may have corrosive effect on metal plumbing, while

hard water may result in scale deposits in the pipes. If the water has a hardness of greater than 500 mg/L, then it is normally unacceptable for most domestic purposes and must be treated.

Anthropogenic sources: mining, industrial effluents

Alkalinity

Definition: This is the measurement of the water's ability to neutralize acids. It usually indicates the presence of carbonate, bicarbonates, or hydroxides. Alkalinity results are expressed in terms of an equivalent amount of calcium carbonate. Note that this does not mean that calcium carbonate was found in the sample. Natural waters rarely have levels that exceed 500 mg/L.

Importance: Waters that have high alkalinity values are considered undesirable because of excessive hardness and high concentrations of sodium salts. Waters with low alkalinity have little capacity to buffer acidic inputs and are susceptible to acidification (low pH).

Anthropogenic sources that destroy alkalinity: mining, industrial effluents, acidic precipitation.

Total Dissolved Solids (TDS)

Definition: This is a measure of the amount of dissolved material in the water column. It is reported in mg/L with values in fresh water naturally ranging from 0-1000 mg/L. Dissolved salts such as sodium, chloride, magnesium and sulphate contribute to elevated filterable residue values.

Importance: High concentrations of TDS limit the suitability of water as a drinking and livestock watering source as well as irrigation supply. High TDS waters may interfere with the clarity, color, and taste of manufactured products. High TDS naturally occurs in some parts of western Oklahoma.

Anthropogenic sources: mining, industrial effluent, sewage treatment, agriculture, road salts.

Total Suspended Solids (TSS)

Definition: This is a measure of the particulate matter that is suspended within the water column. Values are reported in mg/L.

Importance: High concentrations of TSS increase turbidity, thereby restricting light penetration (hindering photosynthetic activity). Suspended material can result in damage to fish gills. Settling suspended solids can cause impairment to spawning

habitat by smothering fish eggs. Suspended solids also interfere with water treatment processes.

Anthropogenic sources: forest harvesting, road building, industrial effluents, urban developments, placer mining, municipal sewage treatment plants.

Specific Conductivity

Definition: This is the measurement of the ability of water to conduct an electric current - the greater the content of ions in the water, the more current the water can carry. Ions are dissolved metals and other dissolved materials. Conductivity is reported in terms of microsiemens per centimeter (µS/cm). Natural waters are found to vary between 50 and 1500 µS/cm. In Oklahoma, some western rivers have specific conductivity values > 25,000 uS/cm, while many waters in the Ouachita Mountains of southeastern Oklahoma have perennial conductivities of < 25.

Importance: Specific Conductivity may be used to estimate the total ion concentration of the water, and is often used as an alternative measure of dissolved solids. It is often possible to establish a correlation between conductivity and dissolved solids for a specific body of water [dissolved solids = conductivity x 0.55 to 0.9 (the most often used is 0.65)]. Fish diversity typically is inversely proportional to conductivity.

Anthropogenic sources: mining, roads (de-icing salts), industrial & municipal effluents. High conductivity may also be naturally occurring.

Chloride

Definition: Of the halides, chloride appears in the highest concentrations in natural fresh water system, and is reported as mg/L. The average chloride concentration varies widely in Oklahoma with values of < 10 mg/L in southeastern Oklahoma to > 3000 mg/L in the Cimarron and upper Red River watersheds. .

Importance: Chloride is important in terms of metabolic processes, as it influences osmotic salinity balance and ion exchange. Higher chloride concentrations can reduce the toxicity of nitrite to aquatic life. Fish diversity typically is inversely proportional to chloride concentration.

Anthropogenic sources: municipal water supply disinfection, sewage treatment plant effluents, urban developments, industrial effluents, mining.

Sulfate

Definition: Sulfur is commonly found as a component of sedimentary and igneous rocks in the form of metallic sulfides. Sulfides are oxidized upon contact with aerated water, producing sulfate ions in solution. (Lehigh 2010)

Importance: When sulfate is less than 0.5 mg/L, algal growth will not occur. On the other hand, sulfate salts can be major contaminants in natural waters. Excessive levels in water may cause illness. The average sulfate concentration varies widely in Oklahoma with values of < 10 mg/L in southeastern Oklahoma to > 1500 mg/L in the upper Red River watersheds. (Lehigh 2010)

Anthropogenic sources: combustion of fuel, present in soils that are oxidized through natural processes, organic waste treatment, mine drainage, and evaporite sediments, such as anhydrite and gypsum.

Total phosphorus

Definition: This is a measure of both inorganic and organic forms of phosphorus. Phosphorus can be present as dissolved or particulate matter. It is an essential plant nutrient and is often the most limiting nutrient to plant growth in fresh water. It is rarely found in significant concentrations in surface waters, and is generally reported in µg/L or mg/L.

Importance: Since phosphorus is generally the most limiting nutrient, its input to fresh water systems can cause extreme proliferations of algal growth. Inputs of phosphorus are the prime contributing factors to eutrophication in most fresh water systems. A general guideline regarding phosphorus and lake productivity is: <10 µg/L phosphorus yields is considered oligotrophic, 10-25 µg/L P will be found in lakes considered mesotrophic, and >25 µg/L P will be found in lakes considered eutrophic.

Anthropogenic sources: sewage treatment plant effluent, agriculture, urban development (particularly from detergents), industrial effluents.

Orthophosphate (PO_4^{-3})

Definition: This is a measure of the inorganic oxidized form of soluble phosphorus. It is generally reported in µg/L or mg/L.

Importance: This form of phosphorus is the most readily available for uptake during photosynthesis. High concentrations of orthophosphate generally occur in conjunction with algal blooms.

Anthropogenic sources: sewage treatment plant effluent, agriculture, urban developments, industrial effluents.

Nitrite (NO_2^-)

Definition: This is a measure of a form of nitrogen that occurs as an intermediate in the nitrogen cycle. It is an unstable form that is either rapidly oxidized to nitrate (nitrification) or reduced to nitrogen gas (de-nitrification). This form of nitrogen can also be used as a

source of nutrients for plants. Nitrite is generally reported in either µg/L or mg/L. It is normally present in only minute quantities in surface waters (<0.001 mg/L).

Importance: Since nitrite is also a source of nutrients for plants its presence encourages plant proliferation. Nitrite is toxic to aquatic life at relatively low concentrations.

Anthropogenic sources: sewage treatment plant effluents, agriculture, urban developments, recreation, industrial effluents, mining (blasting residuals).

Nitrate (NO_3^-)

Definition: This is the measurement of the most oxidized and stable form of nitrogen in a water body. Nitrate is the principle form of combined nitrogen found in natural waters. It results from the complete oxidation of nitrogen compounds, and is generally reported in µg/L or mg/L. Without anthropogenic inputs, most surface waters have less than 0.3 mg/L of nitrate.

Importance: Nitrate is the primary form of nitrogen used by plants as a nutrient to stimulate growth. Excessive amounts of nitrogen may result in phytoplankton or macrophyte proliferations. At high levels it is toxic to infants.

Anthropogenic sources: sewage treatment plant effluents, agriculture, urban developments, recreation, industrial effluents, mining (blasting residuals).

Total Ammonia (NH_3 & NH_4^+)

Definition: This is a measure of the most reduced inorganic form of nitrogen in water and includes dissolved ammonia (NH_3) and the ammonium ion (NH_4^+). Nitrogen is an essential plant nutrient and although ammonia is only a small component of the nitrogen cycle, it contributes to the trophic status of a body of water. Ammonia is generally reported in either µg/L or mg/L. Natural waters typically have ammonia concentrations less than 0.1 mg/L.

Importance: Excess ammonia contributes to eutrophication of water bodies. This results in prolific algal growths that have deleterious impacts on other aquatic life, drinking water supplies, and recreation. Ammonia at high concentrations is toxic to aquatic life.

Anthropogenic sources: sewage treatment plant effluents, agriculture, urban developments, recreation, industrial effluents, mining (blasting residuals).

Kjeldahl nitrogen

Definition: This is a measure of both the total ammonia and the organic forms of nitrogen.

Importance: Excess ammonia contributes to eutrophication of water bodies. This results in prolific algal growths that have deleterious impacts on other aquatic life, drinking water supplies, and recreation. Ammonia at high concentrations is toxic to aquatic life. Organic nitrogen is not immediately available for biological activity. Therefore, it does not contribute to furthering plant proliferation until decomposition to the inorganic forms of nitrogen occurs. Kjeldahl nitrogen is a necessary value for calculating total nitrogen in a system.

Anthropogenic sources: sewage treatment plant effluents, agriculture, urban developments, paper plants, industrial effluents, recreation, mining (blasting residuals).

Total nitrogen

Definition: This is a measure of all forms of nitrogen (organic and inorganic). Nitrogen is an essential plant element and is often the limiting nutrient in marine waters. Total nitrogen is typically calculated by summing nitrate, nitrite, and Kjeldahl nitrogen.

Importance: The importance of nitrogen in the aquatic environment varies according to the relative amounts of the forms of nitrogen present, be it ammonia, nitrite, nitrate, or organic nitrogen (each of which are discussed in detail above).

Anthropogenic sources: sewage treatment plant effluents, agriculture, urban developments, paper plants, industrial effluents, recreation, mining (blasting residuals).

Chlorophyll A

Definition: Chlorophyll a is a green pigment found in plants. It absorbs sunlight and converts it to sugar during photosynthesis. Chlorophyll a concentrations are an indicator of phytoplankton abundance and biomass.

Importance: They can be an effective measure of trophic status, are potential indicators of maximum photosynthetic rate and are a commonly used measure of water quality. High levels often indicate poor water quality and low levels often suggest good conditions. However, elevated chlorophyll a concentrations are not necessarily a bad thing. It is the long-term persistence of elevated levels that is a problem.

Anthropogenic sources: sewage treatment plant effluents, agriculture, urban developments, storm water run-off, natural occurrences.

Trophic State Index

Definition of Trophic State: Trophic state is the total weight of living biological material (biomass) in a waterbody at a specific location and depth. (Carlson, 1996)

Definition of Trophic State Index: A simple and effective management tool for tracking algae growth in lakes worldwide is to express chlorophyll-A as trophic status. Here the

concentration of chlorophyll-A is correlated to the biomass of algae in the sampled water. **Carlson's (1977)** trophic state index (TSI) is one of the most commonly used measurements to compare lake trophic status, which is based on algal biomass. Carlson's TSI uses chlorophyll-a concentrations to define level of eutrophication on a scale of 1 to 100. The trophic scale is set up so that a ten-unit increase in trophic state represents a doubling of algae biomass. The OWRB's statewide lakes sampling program assigns one of three trophic states to Oklahoma reservoirs on an annual basis. A lake is considered oligotrophic below 40, mesotrophic from 41-50, eutrophic 51-60, and hypereutrophic when greater than or equal to 61. The biological condition of the waterbody indicates the lake's level of nutrient enrichment or eutrophication. Secchi depth and total phosphorus can also be used to calculate TSI.

Importance: Trophic state is understood to be the biological response to forcing factors such as nutrient additions, but the effect of nutrients can be modified by factors such as season, grazing, mixing depth, etc. (Carlson, 1996)

Fecal Coliform

Definition: Fecal coliform bacteria are a group of bacteria that are passed through the fecal excrement of humans, livestock and wildlife. The bacteria can be found in the digestive tract of warm-blooded animals and aid in the digestion of food.

Importance: In themselves, fecal coliform bacteria do not pose a danger to people or animals; however, where fecal coliform are present, disease-causing bacteria may also be present. Fecal coliform contamination may indicate that water is polluted with human or animal waste, which can harbor other pathogens that may threaten human health.

Anthropogenic sources: agricultural runoff, animal waste, human waste, leaky sewer lines, on-site septic systems, straight pipes, stormwater runoff from developed land including roads, buildings and residential yards and surface or land application of human and/or animal waste

Enterococcus

Definition: Like fecal coliform bacteria, enterococci are passed through the fecal excrement of humans, livestock and wildlife. The bacteria can be found in the digestive tract of warm-blooded animals and aid in the digestion of food.

Importance: EPA approves the use of enterococci as an indicator of potential pathogenic contamination in recreational bathing waters.

Anthropogenic sources: agricultural runoff, animal waste, human waste, leaky sewer lines, on-site septic systems, straight pipes, stormwater runoff from developed land including roads, buildings and residential yards and surface or land application of human and/or animal waste

E. Coli

Definition: E-Coli are one type of pathogenic fecal coliform bacteria, and the most common facultative, disease-causing bacteria in the feces of warm-blooded animals.

Importance: Most *E. coli* bacteria are harmless and are found in great quantities in the intestines of people and warm-blooded animals. Some strains, however, can cause illness. EPA approves the use of enterococci as an indicator of potential pathogenic contamination in recreational bathing waters.

Anthropogenic sources: agricultural runoff, animal waste, human waste, leaky sewer lines, on-site septic systems, straight pipes, stormwater runoff from developed land including roads, buildings and residential yards and surface or land application of human and/or animal waste

Statistics

n: The number of discrete values in the population or dataset that are used in analyses.

Mean: The mean is a measure of central tendency, or location within the population. For a population or dataset, the mean is the arithmetic average of all values. If data are normally distributed, the mean is equivalent to the median.

Median: The median is a measure of central tendency. The median can also be defined as the 50^{th} percentile. In a population or dataset, the median is the value that has just as many values above it as below it. If there is an even number of values, the median is the average of the two middle values. For normally distributed populations or datasets, the median coincides with the mean and the center of the distribution. For this reason, the median of a sample is often used as an estimator of the center of the distribution. If the distribution has heavier tails than the normal distribution, the median is usually a more precise estimator of the population distribution center than the mean.

Percentiles: In a population or dataset, the pth percentile is a value such that at least a percent of the values take on this value or less and at least (100-P) percent of the values take on this value or more. For example, the 25^{th} (p25) and 75^{th} (p75) percentiles represent the points that 25 and 75 percent of the population are less than. Along with the median, the p25 and p75 values are also known as the 1^{st}, 2^{nd}, and 3^{rd} quartiles, respectively.

Minimum: The minimum is the smallest measured value in the population or dataset.

Maximum: The maximum is the largest measured value in the population or dataset.

Interquartile Range: The difference between the 3d and 1st quartiles are called the interquartile range (IQR). The IQR is used as a measure of population or dataset variability, or dispersion.

Sampling distribution: The probability distribution of the statistic is called the sampling distribution. When a population or dataset is measured, some summary value (called a statistic) is usually computed. For example, the population mean and variance are two statistics, and the value of the statistic changes as the population changes. The normal distribution is a probability distribution which is bell-shaped, symmetrical, and single peaked. In a normally distributed population or dataset, the mean, median and mode coincide and lie at the center of the distribution. The two tails extend indefinitely and never touch the x-axis (asymptotic to the x-axis). In non-normally distributed datasets, the mean shifts to either the right or left tail of the distribution and is not equivalent to the median.

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Arkansas River at Bixby

Sample Record	Times Visited	Station ID
November 1998 - 2012	133	120420010010-001AT

Stream Data

County	Tulsa	Request Data By Email
Location	North of the Town of Bixby on State Highway 64	
Latitude/Longitude	35.95585307, -95.88622562	
Planning Watershed	Middle Arkansas (8-digit HUC - 11110101)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	115	17.0	18.3	1.9/34.1	9.0/24.3	
	Turbidity (NTU)	118	45	20	4/638	12/45	19% of values>OWQS
	pH (units)	114	8.02	8.01	7.19/9.15	7.75/8.27	
	Dissolved Oxygen (mg/L)	115	9.84	9.35	3.90/23.03	7.32/11.48	
	Hardness (mg/L)	116	238	237	85/442	194/281	
Minerals	Total Dissolved Solids (mg/L)	54	761	735	296/1372	523/967	
	Specific Conductivity (uS/cm)	115	1499	1442	92/3275	1016/1885	
	Chloride (mg/L)	117	322	272	66/863	219/392	
	Sulfate (mg/L)	117	125	114	29/1580	86/132	
Nutrients	Total Phosphorus (mg/L)	118	0.220	0.198	0.089/0.835	0.160/0.239	
	Total Nitrogen (mg/L)	116	1.46	1.40	0.25/3.56	1.14/1.69	
	Nitrate/Nitrite (mg/L)	118	0.71	0.68	<0.05/2.35	0.43/0.96	
	Chlorophyll A (mg/m^3)	33	17.2	8.7	0.9/167.0	5.3/15.7	TSI=58.5
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	28	358	109	<10/4000	34/311	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	28	127	46	<10/836	13/165	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	S						U	S	S
Aesthetics												S
Agriculture					S		S	S				
Secondary Body Contact Recreation									S			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

U = Assessment yielded undetermined supporting status

Arkansas River at Haskell

Sample Record	Times Visited	Station ID
November 1998 - Current	168	120410010080-001AT

Stream Data

County	Muskogee	Request Data By Email
Location	East of the Town of Haskell on State Highway 104	
Latitude/Longitude	35.82095549, -95.63995264	
Planning Watershed	Middle Arkansas (8-digit HUC - 11110101)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	153	17.5	18.0	1.9/32.6	9.7/25.5	
	Turbidity (NTU)	154	43	20	2/944	11/46	
	pH (units)	153	8.14	8.12	7.15/9.16	7.92/8.37	
	Dissolved Oxygen (mg/L)	152	9.89	9.76	4.51/16.94	8.49/11.06	
	Hardness (mg/L)	153	241	239	136/490	204/282	
Minerals	Total Dissolved Solids (mg/L)	100	812	785	209/1460	657/973	
	Specific Conductivity (uS/cm)	151	1533	1414	411/3436	1168/1818	
	Chloride (mg/L)	162	334	283	26/815	224/428	
	Sulfate (mg/L)	162	106	104	27/205	81/121	
Nutrients	Total Phosphorus (mg/L)	167	0.212	0.193	0.070/0.810	0.160/0.240	
	Total Nitrogen (mg/L)	162	1.35	1.29	0.40/3.18	1.05/1.59	
	Nitrate/Nitrite (mg/L)	163	0.54	0.54	<0.05/1.60	0.21/0.77	
	Chlorophyll A (mg/m^3)	75	22.8	14.4	1.3/140.0	5.0/36.5	TSI=61.5
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	40	208	57	<10/2420	<10/140	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	40	128	<10	<10/1515	<10/104	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						U	S	S
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									S			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

U = Assessment yielded undetermined supporting status

Arkansas River at Moffett

Sample Record	Times Visited	Station ID
November 1998 - Current	85	220200010010-001AT

Stream Data

County	Sequoyah	Request Data By Email
Location	East of the Town of Moffett on State Highway 64	
Latitude/Longitude	35.39242903, -94.43267795	
Planning Watershed	Lower Arkansas (8-digit HUC - 11110104)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	82	19.4	21.1	1.7/30.9	12.8/27.1	
	Turbidity (NTU)	85	35	22	7/194	16/44	
	pH (units)	82	7.82	7.82	6.87/8.79	7.60/8.08	
	Dissolved Oxygen (mg/L)	82	9.38	8.76	5.35/16.48	7.53/10.53	
	Hardness (mg/L)	82	158	139	39/658	125/177	
Minerals	Total Dissolved Solids (mg/L)	40	310	301	146/536	243/386	
	Specific Conductivity (uS/cm)	80	607	575	195/1333	484/730	
	Chloride (mg/L)	84	101	92	13/293	57/128	
	Sulfate (mg/L)	84	53	50	22/116	36/60	
Nutrients	Total Phosphorus (mg/L)	84	0.118	0.111	0.050/0.330	0.090/0.130	
	Total Nitrogen (mg/L)	83	0.96	0.91	0.45/2.82	0.71/1.12	
	Nitrate/Nitrite (mg/L)	84	0.30	0.23	<0.05/1.17	0.10/0.44	
	Chlorophyll A (mg/m^3)	43	15.6	12.5	0.1/71.8	7.1/15.9	TSI=57.5
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	24	955	10	<10/12000	<10/20	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	24	140	10	<10/2035	<10/18	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						U	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									S			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

U = Assessment yielded undetermined supporting status

Arkansas River at Muskogee

Sample Record	Times Visited	Station ID
November 1998 - Current	132	121400010260-001AT

Stream Data

County	Muskogee	Request Data By Email
Location	East of the Town of Muskogee on State Highway 62	
Latitude/Longitude	35.77016066, -95.30031102	
Planning Watershed	Middle Arkansas (8-digit HUC - 11110102)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	131	18.0	18.6	1.9/32.4	10.9/25.6	
	Turbidity (NTU)	132	44	23	5/387	15/40	
	pH (units)	129	8.04	8.01	7.09/9.48	7.73/8.32	
	Dissolved Oxygen (mg/L)	131	8.94	8.72	4.20/14.88	7.06/10.66	
	Hardness (mg/L)	129	184	172	92/418	142/218	
Minerals	Total Dissolved Solids (mg/L)	71	455	402	155/1040	305/598	
	Specific Conductivity (uS/cm)	130	919	787	215/2746	459/1225	
	Chloride (mg/L)	118	169	135	11/713	77/212	
	Sulfate (mg/L)	119	73	65	28/202	44/90	
Nutrients	Total Phosphorus (mg/L)	132	0.162	0.144	0.050/0.710	0.110/0.170	
	Total Nitrogen (mg/L)	131	1.18	1.10	0.40/3.90	0.92/1.39	
	Nitrate/Nitrite (mg/L)	132	0.43	0.40	<0.05/1.21	0.18/0.63	
	Chlorophyll A (mg/m^3)	58	19.5	14.5	0.1/90.0	8.9/26.7	TSI=59.7
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	31	3685	20	<10/75000	<10/200	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	31	378	20	<10/5492	<10/52	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						S	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									S			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Arkansas River at Ralston

Sample Record	Times Visited	Station ID
December 1998 - Current	169	621200010200-001AT

Stream Data

County	Pawnee	Request Data By Email
Location	East of the Town of Ralston on State Highway 18	
Latitude/Longitude	36.50481274, -96.72547095	
Planning Watershed	Upper Arkansas (8-digit HUC - 11060006)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	160	18.1	19.0	-0.4/38.0	10.3/25.2	
	Turbidity (NTU)	161	116	33	2/>1000	13/98	
	pH (units)	160	8.21	8.23	6.96/9.00	8.00/8.41	
	Dissolved Oxygen (mg/L)	160	10.06	9.71	1.73/26.76	8.13/11.64	
	Hardness (mg/L)	160	259	250	82/635	198/320	
Minerals	Total Dissolved Solids (mg/L)	97	719	669	203/1510	533/850	
	Specific Conductivity (uS/cm)	160	1208	1103	186/4882	753/1536	
	Chloride (mg/L)	165	256	221	18/1380	153/298	
	Sulfate (mg/L)	165	108	102	36/268	84/134	
Nutrients	Total Phosphorus (mg/L)	165	0.227	0.172	<0.010/1.390	0.120/0.250	
	Total Nitrogen (mg/L)	164	1.37	1.28	0.35/5.78	0.91/1.61	
	Nitrate/Nitrite (mg/L)	165	0.48	0.44	<0.05/1.72	<0.05/0.72	
	Chlorophyll A (mg/m^3)	68	25.5	20.6	2.0/113.0	9.7/35.7	TSI=62.4
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	37	2337	100	<10/65000	20/1035	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	37	603	20	<10/9804	<10/290	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						U	S	S
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

U = Assessment yielded undetermined supporting status

Arkansas River at Sand Springs

Sample Record	Times Visited	Station ID
September 1999 - 2012	118	120420010130-001AT

Stream Data

County	Tulsa	Request Data By Email
Location	South of the Town of Sand Springs on State Highway 97	
Latitude/Longitude	36.12393866, -96.11578343	
Planning Watershed	Middle Arkansas (8-digit HUC - 11110101)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	102	17.3	19.1	0.5/33.0	9.3/24.6	
	Turbidity (NTU)	104	34	15	3/735	8/32	19% of values>OWQS
	pH (units)	102	7.87	7.87	7.16/8.63	7.69/8.02	
	Dissolved Oxygen (mg/L)	102	8.92	9.00	2.84/15.85	6.98/10.51	
	Hardness (mg/L)	104	243	238	59/412	196/288	
Minerals	Total Dissolved Solids (mg/L)	44	846	807	347/1650	601/1059	
	Specific Conductivity (uS/cm)	102	1646	1564	179/4080	1128/1995	
	Chloride (mg/L)	104	367	309	91/1100	238/468	
	Sulfate (mg/L)	105	115	112	29/228	85/137	
Nutrients	Total Phosphorus (mg/L)	105	0.138	0.140	0.016/0.281	0.109/0.164	
	Total Nitrogen (mg/L)	104	1.15	1.18	0.48/2.20	0.78/1.45	
	Nitrate/Nitrite (mg/L)	106	0.54	0.55	<0.05/1.36	0.24/0.78	
	Chlorophyll A (mg/m^3)	32	6.1	5.4	0.7/18.7	3.1/7.9	TSI=48.3
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	25	67	20	<10/400	<10/87	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	25	28	20	<10/119	<10/36	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	S						U	S	S
Aesthetics												S
Agriculture					S		S	S				
Secondary Body Contact Recreation									S			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

U = Assessment yielded undetermined supporting status

Barren Fork at Eldon

Sample Record	Times Visited	Station ID
November 1998 - Current	192	121700050010-001AT

Stream Data

County	Cherokee	Request Data By Email
Location	South of the Town of Eldon on State Highway 51	
Latitude/Longitude	35.92173377, -94.83726494	
Planning Watershed	Lower Arkansas (8-digit HUC - 11110103)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	140	17.0	17.5	3.1/29.9	11.2/22.1	
	Turbidity (NTU)	138	4	2	1/45	2/3	
	pH (units)	139	7.62	7.56	6.37/8.82	7.35/7.88	
	Dissolved Oxygen (mg/L)	140	9.60	9.69	4.40/14.53	7.90/11.17	
	Hardness (mg/L)	141	100	98	46/159	90/108	
Minerals	Total Dissolved Solids (mg/L)	24	137	118	92/545	107/126	
	Specific Conductivity (uS/cm)	140	202	200	20/713	177/221	
	Chloride (mg/L)	102	8	10	<10/44	<10/10	
	Sulfate (mg/L)	102	10	10	<10/40	<10/10	
Nutrients	Total Phosphorus (mg/L)	146	0.032	0.027	<0.010/0.220	0.020/0.040	
	Total Nitrogen (mg/L)	145	1.52	1.40	0.20/4.20	0.86/2.00	
	Nitrate/Nitrite (mg/L)	146	1.36	1.29	0.14/3.83	0.73/1.76	
	Chlorophyll A (mg/m^3)	86	1.4	1.1	0.1/11.7	0.6/1.7	TSI=34.00
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	83	228	20	<10/3900	<10/80	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	83	99	10	<10/2420	<10/41	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment	Total Phosphorus
Fish & Wildlife Propagation	S	S	S	S						S	S	S	
Aesthetics												S	S
Agriculture					S		S	S					
Primary Body Contact Recreation									S				
Public & Private Water Supply				S		S			S				
Fish Consumption				S									

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Beaver River at Beaver

Sample Record	Times Visited	Station ID
November 1998 - Current	132	720500020290-001AT

Stream Data

County	Beaver	Request Data By Email
Location	North of the Town of Beaver on State Highway 23	
Latitude/Longitude	36.82280124, -100.5193698	
Planning Watershed	Panhandle (8-digit HUC - 11100102)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	104	16.2	15.2	1.0/32.0	10.2/23.5	
	Turbidity (NTU)	107	19	7	1/808	4/16	
	pH (units)	103	7.67	7.63	6.93/9.10	7.32/7.98	
	Dissolved Oxygen (mg/L)	105	8.81	8.53	0.16/20.28	6.31/10.96	18% of values<OWQS and 18% of values<alt OWQS
	Hardness (mg/L)	105	1708	1428	201/3730	1106/2230	
Minerals	Total Dissolved Solids (mg/L)	63	6498	6570	1360/11600	4294/8830	100% of values>OWQS
	Specific Conductivity (uS/cm)	106	9205	8280	451/17999	6977/11765	
	Chloride (mg/L)	107	2655	2370	177/6510	1900/3240	100% of values>OWQS
	Sulfate (mg/L)	107	982	877	103/2620	623/1250	58% of values>OWQS
Nutrients	Total Phosphorus (mg/L)	107	0.082	0.037	<0.010/2.120	0.020/0.070	
	Total Nitrogen (mg/L)	107	1.07	0.93	0.18/12.11	0.59/1.16	
	Nitrate/Nitrite (mg/L)	107	0.10	0.05	<0.05/3.96	<0.05/0.05	
	Chlorophyll A (mg/m^3)	13	33.4	10.4	3.2/121.0	8.3/64.6	TSI=60.1
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	23	1320	199	20/9208	100/1100	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	23	1285	221	<10/5794	63/2987	Mean>OWQS

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	NS	NS						NS	U	NS
Aesthetics												S
Agriculture					NS		NS	NS				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish & Wildlife Propagation not supporting for Selenium
U = Assessment yielded undetermined supporting status

Beaver Creek at Ryan

Sample Record	Times Visited	Station ID
January 2013 - Current	42	311200000030-001AT

Stream Data

County	Jefferson	Request Data By Email
Location	West of the Town of Ryan off State Highway 81	
Latitude/Longitude	34.020316 , -97.971356	
Planning Watershed	Northern Beaver (8-digit HUC - 11130208)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	42	18.0	17.7	0.5/30.6	12.6/25.6	
	Turbidity (NTU)	42	78	50	8/473	28/86	44% of values>OWQS
	pH (units)	42	8.24	8.19	7.42/9.17	7.84/8.61	
	Dissolved Oxygen (mg/L)	42	8.95	7.08	2.89/25.19	5.32/11.07	30% of values<OWQS and 18% of values<alt OWQS
	Hardness (mg/L)	42	285	260	94/500	180/371	
Minerals	Total Dissolved Solids (mg/L)	39	589	498	125/1590	269/730	12% of values>OWQS
	Specific Conductivity (uS/cm)	42	1134	917	214/3476	461/1628	
	Chloride (mg/L)	39	165	90	12/666	29/182	
	Sulfate (mg/L)	39	118	93	41/296	74/173	
Nutrients	Total Phosphorus (mg/L)	39	0.519	0.483	0.070/1.410	0.340/0.610	
	Total Nitrogen (mg/L)	39	3.44	2.37	0.87/14.26	1.65/3.89	
	Nitrate/Nitrite (mg/L)	39	1.60	0.33	<0.05/11.80	0.18/2.32	
	Chlorophyll A (mg/m^3)	39	95.4	49.3	<0.1/455.0	17.1/195.0	TSI=75.3
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	12	438	394	108/980	261/488	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	12	181	144	<10/517	23/249	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	NS	S						NEI	U	NEI
Aesthetics												NEI
Agriculture					S		S	NS				
Primary Body Contact Recreation									NEI			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

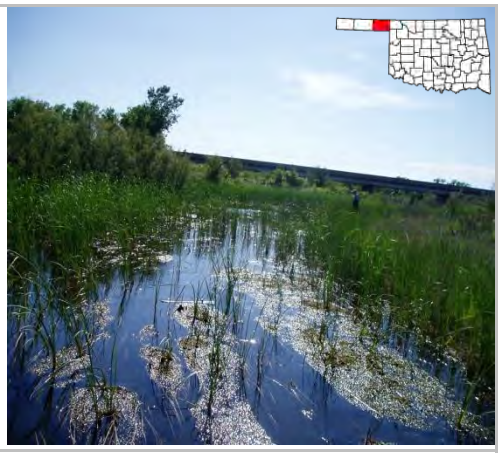
S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

U = Assessment yielded undetermined supporting status

Beaver River at Gate

Sample Record	Times Visited	Station ID
October 2000 – September 2007	45	720500020140-001AT



Stream Data

County	Beaver	Request Data By Email
Location	South of the Town of Gate on County Road N 1650	
Latitude/Longitude	36.78998597, -100.0574831	
Planning Watershed	Panhandle (8-digit HUC -11100201)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	37	20.0	21.2	2.0/34.3	13.0/27.6	
	Turbidity (NTU)	37	11	6	1/103	4/11	
	pH (units)	35	8.03	8.08	7.38/8.60	7.83/8.25	
	Dissolved Oxygen (mg/L)	37	9.99	9.96	5.61/18.98	7.91/11.36	
	Hardness (mg/L)	37	650	625	320/1050	508/778	
Minerals	Total Dissolved Solids (mg/L)	3	2140	1950	1830/2640	1830/2640	
	Specific Conductivity (uS/cm)	37	3680	3477	1897/10893	2525/4217	
	Chloride (mg/L)	37	964	878	368/2860	631/1195	50% of values>OWQS
	Sulfate (mg/L)	37	365	330	175/1230	268/430	
Nutrients	Total Phosphorus (mg/L)	37	0.050	0.034	<0.010/0.272	0.019/0.061	
	Total Nitrogen (mg/L)	37	0.73	0.67	0.24/1.79	0.44/1.03	
	Nitrate/Nitrite (mg/L)	37	0.06	<0.05	<0.05/0.20	<0.05/0.05	
	Chlorophyll A (mg/m^3)	0	0.0	0.0	0/0	0/0	No Data
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	12	622	151	<10/2900	43/775	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	12	138	76	<10/496	<10/251	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						NS	NS	NS
Aesthetics												NEI
Agriculture					S		NS	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				NS								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish Consumption not supporting for Lead

Sampling and Assessment by the **Oklahoma Water Resources Board** – 3800 Classen Blvd, Oklahoma City, OK, 73118 – 405.530.8800 – http://www.owrb.ok.gov

Beaver River at Guymon

Sample Record	Times Visited	Station ID
April 1999 - 2012	123	720510000190-001AT

Stream Data

County	Texas	Request Data By Email
Location	West of the Town of Guymon off State Highway 64	
Latitude/Longitude	36.70576142, -101.6365036	
Planning Watershed	Panhandle (8-digit HUC - 11100101)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	111	15.4	16.0	-0.2/32.0	8.0/22.9	
	Turbidity (NTU)	115	20	14	2/146	8/25	
	pH (units)	109	8.00	8.00	7.21/8.90	7.76/8.18	
	Dissolved Oxygen (mg/L)	113	8.11	8.01	0.06/30.97	5.99/9.82	22% of values<OWQS and 7% of values<alt OWQS
	Hardness (mg/L)	113	265	228	70/1263	205/268	
Minerals	Total Dissolved Solids (mg/L)	37	298	295	270/331	290/309	
	Specific Conductivity (uS/cm)	112	482	478	170/668	452/524	
	Chloride (mg/L)	99	11	11	<5/25	10/13	
	Sulfate (mg/L)	99	30	30	17/81	27/33	
Nutrients	Total Phosphorus (mg/L)	113	0.053	0.035	<0.005/0.504	0.018/0.056	
	Total Nitrogen (mg/L)	113	0.62	0.51	0.16/5.27	0.40/0.68	
	Nitrate/Nitrite (mg/L)	113	0.14	<0.05	<0.05/0.76	<0.05/0.17	
	Chlorophyll A (mg/m^3)	20	4.0	2.4	0.2/24.9	1.6/4.4	TSI=44.1
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	22	1842	233	31/21000	132/1325	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	22	1376	233	74/24192	152/448	Mean>OWQS

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	U	S						S	U	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

U = Assessment yielded undetermined supporting status

Beaver River at Ft. Supply

Sample Record	Times Visited	Station ID
November 1998 - Current	144	720500020010-002AT

Stream Data

County	Harper	Request Data By Email
Location	Northwest of the Town of Ft. Supply on State Highway 183	
Latitude/Longitude	36.5908354, -99.59121563	
Planning Watershed	Panhandle (8-digit HUC - 11100201)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	141	18.2	18.8	-0.1/36.2	10.5/25.9	
	Turbidity (NTU)	144	11	6	1/65	4/13	
	pH (units)	138	8.04	8.07	7.26/8.58	7.90/8.24	
	Dissolved Oxygen (mg/L)	140	9.88	10.02	1.46/16.50	8.18/11.76	25% of values<OWQS and 25% of values<alt OWQS
	Hardness (mg/L)	142	516	464	238/1260	371/580	
Minerals	Total Dissolved Solids (mg/L)	80	926	775	401/1920	697/1053	
	Specific Conductivity (uS/cm)	142	1560	1442	650/3419	1221/1724	
	Chloride (mg/L)	142	226	202	69/786	178/230	
	Sulfate (mg/L)	141	286	241	47/1170	168/312	
Nutrients	Total Phosphorus (mg/L)	142	0.037	0.024	<0.010/0.170	0.010/0.050	
	Total Nitrogen (mg/L)	143	0.72	0.71	0.20/1.60	0.47/0.91	
	Nitrate/Nitrite (mg/L)	143	0.21	<0.05	<0.05/1.17	<0.05/0.33	
	Chlorophyll A (mg/m^3)	66	4.4	3.3	<0.5/28.4	1.5/5.4	TSI=45.1
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	28	482	243	20/3000	103/582	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	28	138	80	<10/437	20/180	Mean>OWQS

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	NS	S						S	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			
Fish Consumption				NS								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes: *Fish Consumption not supporting for Lead*

Beaver River at Turpin

Sample Record	Times Visited	Station ID
November 2000 – May 2008	69	720500020450-001AT

Stream Data

County	Beaver	Request Data By Email
Location	South of the Town of Turpin on State Highway 83	
Latitude/Longitude	36.75941268, -100.8439297	
Planning Watershed	Panhandle (8-digit HUC - 11100102)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	58	15.2	15.8	-0.2/28.9	9.0/21.5	
	Turbidity (NTU)	59	6	3	1/32	2/7	
	pH (units)	58	7.87	7.87	7.27/8.65	7.66/8.11	
	Dissolved Oxygen (mg/L)	58	10.89	11.05	4.53/20.14	8.65/12.71	
	Hardness (mg/L)	59	1177	1169	207/1850	1039/1335	
Minerals	Total Dissolved Solids (mg/L)	8	6020	5930	5660/6580	5785/6360	100% of values>OWQS
	Specific Conductivity (uS/cm)	59	9288	9337	4295/12796	8582/10421	
	Chloride (mg/L)	58	2561	2585	729/3970	2312/2800	100% of values>OWQS
	Sulfate (mg/L)	59	706	681	229/1600	616/777	17% of values>OWQS
Nutrients	Total Phosphorus (mg/L)	59	0.039	0.024	0.011/0.263	0.018/0.034	
	Total Nitrogen (mg/L)	59	0.85	0.68	0.33/3.86	0.58/0.93	
	Nitrate/Nitrite (mg/L)	59	0.06	<0.05	<0.05/0.20	<0.05/0.05	
	Chlorophyll A (mg/m^3)	15	17.7	7.5	<0.5/78.0	2.7/19.0	TSI=58.8
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	19	2250	500	<10/24000	30/1300	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	19	1108	259	<10/6867	41/911	Mean>OWQS

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						NS	S	NS
Aesthetics												NEI
Agriculture					NS		NS	NS				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			
Fish Consumption				NS								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Sampling and Assessment by the **Oklahoma Water Resources Board** – 3800 Classen Blvd, Oklahoma City, OK, 73118 – 405.530.8800 – http://www.owrb.ok.gov

Big Cabin Creek at Big Cabin

Sample Record	Times Visited	Station ID
September 1999 - 2012	131	121600060060-001AT

Stream Data

County	Craig	Request Data By Email
Location	Northeast of the Town of Big Cabin on road 310	
Latitude/Longitude	36.56838771, -95.15177919	
Planning Watershed	Grand (8-digit HUC - 11070209)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	109	16.9	17.2	0.3/32.4	10.0/24.4	
	Turbidity (NTU)	108	41	28	7/755	18/41	
	pH (units)	109	7.60	7.56	6.78/8.79	7.40/7.81	
	Dissolved Oxygen (mg/L)	109	7.86	7.38	3.08/18.50	5.85/9.59	
	Hardness (mg/L)	107	244	218	13/671	175/292	
Minerals	Total Dissolved Solids (mg/L)	31	369	356	164/964	265/422	
	Specific Conductivity (uS/cm)	108	568	557	165/1385	446/674	
	Chloride (mg/L)	109	21	10	<5/85	10/26	
	Sulfate (mg/L)	110	161	140	34/538	96/200	15% of values>OWQS
Nutrients	Total Phosphorus (mg/L)	110	0.195	0.142	0.026/1.090	0.094/0.217	
	Total Nitrogen (mg/L)	109	1.79	1.36	0.49/11.16	0.93/1.98	
	Nitrate/Nitrite (mg/L)	110	0.80	0.39	<0.05/10.1	0.21/0.82	
	Chlorophyll A (mg/m^3)	55	17.9	9.5	1.2/102.0	3.5/24.0	TSI=58.9
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	31	15901	52	<10/437000	20/616	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	31	1558	110	<10/24196	31/847	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						S	S	S
Aesthetics												S
Agriculture					NS		S	S				
Primary Body Contact Recreation									S			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Bird Creek at Avant

Sample Record	Times Visited	Station ID
January 2012 - Current	15	121300020010-001AT

Stream Data

County	Osage	Request Data By Email
Location	South of the town of Avant off State Highway 11	
Latitude/Longitude	36.484775359, -96.059833576	
Planning Watershed	Middle Arkansas (8-digit HUC -11070107)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	9	20.0	21.9	3.4/29.3	12.4/28.0	
	Turbidity (NTU)	9	9	7	4/28	6/8	
	pH (units)	9	7.96	7.97	7.49/8.44	7.83/8.08	
	Dissolved Oxygen (mg/L)	9	9.08	8.15	7.18/13.03	7.79/10.73	
	Hardness (mg/L)	9	120	124	85/157	101/136	
Minerals	Total Dissolved Solids (mg/L)	11	171	179	115/224	141/189	
	Specific Conductivity (uS/cm)	9	319	343	181/443	255/372	
	Chloride (mg/L)	11	28	28	12/46	24/34	
	Sulfate (mg/L)	11	19	18	13/30	15/21	
Nutrients	Total Phosphorus (mg/L)	11	0.034	0.028	0.020/0.070	0.020/0.040	
	Total Nitrogen (mg/L)	11	0.58	0.58	0.38/0.90	0.47/0.66	
	Nitrate/Nitrite (mg/L)	11	0.06	0.05	0.03/0.16	0.03/0.07	
	Chlorophyll A (mg/m^3)	11	6.7	7.1	2.1/12.0	3.8/9.3	TSI=49.2
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	5	141	206	16/248	16/233	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	5	157	20	17/613	18/363	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NEI	NEI	NEI	NEI						NEI	NEI	NEI
Aesthetics												NEI
Agriculture					NEI		NEI	NEI				
Primary Body Contact Recreation									NEI			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Sampling and Assessment by the **Oklahoma Water Resources Board** – 3800 Classen Blvd, Oklahoma City, OK, 73118 – 405.530.8800 – http://www.owrb.ok.gov

Bird Creek at Port of Catoosa

Sample Record	Times Visited	Station ID
November 1998 - Current	164	121300010010-001AT

Stream Data

County	Tulsa	Request Data By Email
Location	Northwest of the Town of Catoosa on State Highway 266	
Latitude/Longitude	36.22311412, -95.81921244	
Planning Watershed	Middle Arkansas (8-digit HUC - 11070107)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	153	17.9	18.0	2.8/31.9	10.9/24.8	
	Turbidity (NTU)	153	75	29	6/>1000	20/68	
	pH (units)	153	7.60	7.60	6.88/9.12	7.41/7.76	
	Dissolved Oxygen (mg/L)	152	8.24	7.71	3.17/19.26	6.54/9.60	
	Hardness (mg/L)	153	135	131	58/294	112/159	
Minerals	Total Dissolved Solids (mg/L)	83	239	244	64/454	208/271	
	Specific Conductivity (uS/cm)	152	412	407	26/1570	324/478	
	Chloride (mg/L)	148	42	39	5/219	30/49	
	Sulfate (mg/L)	148	43	38	19/293	29/45	
Nutrients	Total Phosphorus (mg/L)	161	0.397	0.370	0.050/1.020	0.260/0.500	
	Total Nitrogen (mg/L)	162	3.08	2.89	0.82/8.16	2.06/3.96	
	Nitrate/Nitrite (mg/L)	163	2.08	1.91	0.16/6.90	1.04/3.07	
	Chlorophyll A (mg/m^3)	96	7.9	5.9	1.7/86.4	4.3/8.2	TSI=50.8
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	37	3422	146	<10/73000	32/738	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	37	841	78	<10/17329	47/417	Mean>OWQS

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						S	NEI	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Black Bear Creek at Pawnee

Sample Record	Times Visited	Station ID
December 1998 - Current	174	621200030010-001AT

Stream Data

County	Pawnee	Request Data By Email
Location	North of the Town of Pawnee on State Highway 18	
Latitude/Longitude	36.34341161, -96.79985204	
Planning Watershed	Upper Arkansas (8-digit HUC - 11060006)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	162	17.2	18.0	-0.3/33.3	9.3/24.6	
	Turbidity (NTU)	163	145	54	5/>1000	20/171	39% of values>OWQS
	pH (units)	162	7.92	7.93	6.26/8.70	7.67/8.16	
	Dissolved Oxygen (mg/L)	162	8.63	8.04	1.70/30.01	6.18/10.08	
	Hardness (mg/L)	161	224	213	42/465	139/299	
Minerals	Total Dissolved Solids (mg/L)	96	445	390	132/1170	234/604	
	Specific Conductivity (uS/cm)	161	816	699	158/2215	410/1117	
	Chloride (mg/L)	166	139	107	<10/564	54/197	
	Sulfate (mg/L)	166	46	43	<10/145	32/57	
Nutrients	Total Phosphorus (mg/L)	174	0.240	0.188	<0.010/1.330	0.120/0.330	
	Total Nitrogen (mg/L)	165	1.56	1.41	0.47/4.36	0.95/1.95	
	Nitrate/Nitrite (mg/L)	166	0.37	0.29	<0.05/2.61	<0.05/0.56	
	Chlorophyll A (mg/m^3)	47	16.4	11.0	2.3/65.3	7.7/21.0	TSI=58.1
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	38	1239	287	<10/19000	56/1215	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	38	455	66	<10/10462	20/267	

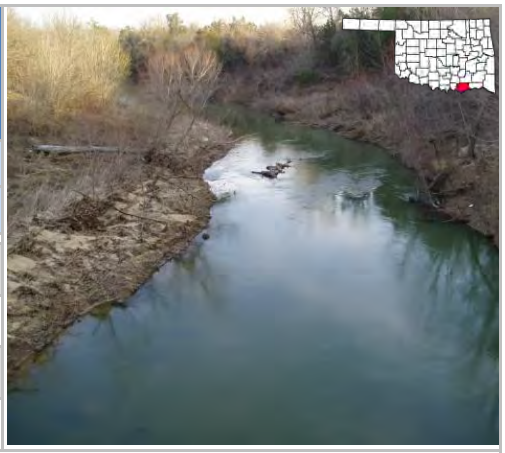
Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	S						S	U	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes *U = Assessment yielded undetermined supporting status*

Blue River at Durant



Sample Record	Times Visited	Station ID
November 1998 - Current	175	410600010010-001AT

Stream Data

County	Bryan	Request Data By Email
Location	East of the Town of Durant off State Highway 70	
Latitude/Longitude	33.99732546, -96.24093554	
Planning Watershed	Blue-Boggy (8-digit HUC - 11140102)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	159	18.7	18.6	2.7/33.0	11.9/25.9	
	Turbidity (NTU)	162	65	25	3/707	14/46	
	pH (units)	157	8.03	8.06	7.06/8.80	7.87/8.20	
	Dissolved Oxygen (mg/L)	159	8.58	8.32	4.14/20.41	6.91/9.90	
	Hardness (mg/L)	160	220	232	68/346	192/254	
Minerals	Total Dissolved Solids (mg/L)	43	227	237	68/288	208/252	
	Specific Conductivity (uS/cm)	159	396	411	139/596	343/464	
	Chloride (mg/L)	108	<10	10	<10/63	<10/10	
	Sulfate (mg/L)	107	19	16	<10/82	11/22	
Nutrients	Total Phosphorus (mg/L)	166	0.083	0.052	<0.010/0.500	0.030/0.090	
	Total Nitrogen (mg/L)	161	0.62	0.45	0.05/3.12	0.29/0.80	
	Nitrate/Nitrite (mg/L)	161	0.15	0.05	<0.05/1.40	<0.05/0.19	
	Chlorophyll A (mg/m^3)	58	3.7	2.8	0.2/29.0	0.7/5.0	TSI=43.4
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	45	537	101	<10/5000	32/481	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	45	247	104	<10/2420	41/276	Mean>OWQS

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						S	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Brushy Creek at Haileyville

Sample Record	Times Visited	Station ID
November 1998 - 2012	136	220600030010-001AT

Stream Data

County	Pittsburg	Request Data By Email
Location	Southwest of the Town of Haileyville on State Highway 63	
Latitude/Longitude	34.843370, -95.614373	
Planning Watershed	Eufaula (8-digit HUC - 11090204)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	117	17.9	18.6	1.9/33.0	10.9/24.9	
	Turbidity (NTU)	119	72	42	4/>1000	25/80	14% of values>OWQS
	pH (units)	117	7.37	7.33	6.31/8.57	7.08/7.68	
	Dissolved Oxygen (mg/L)	117	7.19	6.60	1.41/26.38	5.10/8.41	12% of values<OWQS
	Hardness (mg/L)	117	97	74	<10/693	52/99	
Minerals	Total Dissolved Solids (mg/L)	37	128	113	62/254	98/145	
	Specific Conductivity (uS/cm)	117	276	179	18/1291	123/252	
	Chloride (mg/L)	104	26	10	<10/178	<10/18	
	Sulfate (mg/L)	105	63	34	12/369	26/50	
Nutrients	Total Phosphorus (mg/L)	120	0.116	0.077	0.007/1.060	0.053/0.122	
	Total Nitrogen (mg/L)	119	0.91	0.81	0.23/3.39	0.61/1.08	
	Nitrate/Nitrite (mg/L)	120	0.17	0.11	<0.05/1.17	<0.05/0.25	
	Chlorophyll A (mg/m^3)	23	5.9	3.7	0.5/33.0	1.3/4.9	TSI=47.9
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	26	944	36	<10/14136	<10/198	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	26	1001	68	<10/19863	<10/273	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	U	S						S	U	NS
Aesthetics												NS
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			NS
Fish Consumption				NS								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish Consumption not supporting for Lead
Aesthetics, Fish & Wildlife Propagation, Private & Public Water Supply not supporting for oil & grease
U = Assessment yielded undetermined supporting status

Canadian River at Bridgeport

Sample Record	Times Visited	Station ID
February 1999 - Current	158	520610020150-001AT

Stream Data

County	Blaine	Request Data By Email
Location	East of the Town of Bridgeport on US Highway 281	
Latitude/Longitude	35.54292908, -98.31831715	
Planning Watershed	West Central (8-digit HUC - 11090202)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	151	17.3	17.8	-0.6/36.3	10.0/24.9	
	Turbidity (NTU)	148	61	23	3/>1000	10/59	
	pH (units)	147	8.13	8.16	7.60/8.60	7.98/8.29	
	Dissolved Oxygen (mg/L)	150	9.67	9.46	0.38/19.77	8.23/10.61	
	Hardness (mg/L)	152	561	551	126/2100	452/625	
Minerals	Total Dissolved Solids (mg/L)	89	993	1060	265/1518	784/1185	
	Specific Conductivity (uS/cm)	151	1466	1520	334/2552	1068/1865	
	Chloride (mg/L)	150	154	178	12/472	41/235	
	Sulfate (mg/L)	152	408	409	106/752	342/451	
Nutrients	Total Phosphorus (mg/L)	152	0.135	0.088	<0.010/2.140	0.060/0.140	
	Total Nitrogen (mg/L)	151	1.29	1.15	0.38/7.47	0.87/1.47	
	Nitrate/Nitrite (mg/L)	152	0.49	0.40	<0.05/2.50	0.08/0.66	
	Chlorophyll A (mg/m^3)	68	14.3	8.1	2.3/84.4	5.5/22.0	TSI=56.7
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	34	734	89	<10/12033	31/388	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	34	923	26	<10/24192	<10/95	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						S	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				NS								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes: *Fish Consumption not supporting for Lead*

Sampling and Assessment by the **Oklahoma Water Resources Board** – 3800 Classen Blvd, Oklahoma City, OK, 73118 – 405.530.8800 – http://www.owrb.ok.gov

Canadian River at Calvin

Sample Record	Times Visited	Station ID
December 1998 - Current	172	220600010119-001AT

Stream Data

County	Hughes	Request Data By Email
Location	North of the Town of Calvin on State Highway 270	
Latitude/Longitude	34.97589666, -96.24231022	
Planning Watershed	Central (8-digit HUC - 11090202)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	156	18.6	19.0	1.5/36.3	11.6/26.0	
	Turbidity (NTU)	155	139	41	4/>1000	20/128	
	pH (units)	156	8.27	8.27	7.19/9.04	8.11/8.44	
	Dissolved Oxygen (mg/L)	156	10.11	9.87	3.79/23.59	8.25/11.72	
	Hardness (mg/L)	158	324	313	99/727	252/394	
Minerals	Total Dissolved Solids (mg/L)	92	609	597	312/1064	492/703	
	Specific Conductivity (uS/cm)	156	998	1005	318/1749	752/1233	
	Chloride (mg/L)	154	132	132	25/253	102/169	
	Sulfate (mg/L)	155	164	154	32/473	106/209	
Nutrients	Total Phosphorus (mg/L)	159	0.240	0.192	0.020/1.160	0.130/0.290	
	Total Nitrogen (mg/L)	158	1.58	1.48	0.35/6.36	1.04/1.97	
	Nitrate/Nitrite (mg/L)	159	0.32	0.05	<0.05/1.83	<0.05/0.53	
	Chlorophyll A (mg/m^3)	94	38.4	27.7	3.4/176.0	16.8/46.2	TSI=66.4
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	54	927	93	<10/24192	28/458	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	54	240	20	<10/2420	<10/87	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						NS	S	NS
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				NS								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes: *Fish Consumption not supporting for Lead*

Canadian River at Konawa

Sample Record	Times Visited	Station ID
November 1998 - 2012	135	520600010010-001AT

Stream Data

County	Seminole	Request Data By Email
Location	East of the Town of Konawa on State Highway 377	
Latitude/Longitude	34.93343848, -96.6830356	
Planning Watershed	Central (8-digit HUC - 11090202)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	115	18.0	18.5	0.7/34.8	11.0/26.6	
	Turbidity (NTU)	114	173	41	1/>1000	22/199	
	pH (units)	116	8.27	8.26	7.43/9.15	8.02/8.46	
	Dissolved Oxygen (mg/L)	114	9.77	9.30	4.49/32.28	7.89/11.15	
	Hardness (mg/L)	115	364	355	89/674	267/462	
Minerals	Total Dissolved Solids (mg/L)	52	706	713	294/1160	551/863	54% of values>OWQS
	Specific Conductivity (uS/cm)	115	1076	1103	206/1722	793/1369	
	Chloride (mg/L)	114	122	120	18/282	81/160	
	Sulfate (mg/L)	114	246	227	41/3090	147/276	
Nutrients	Total Phosphorus (mg/L)	123	0.327	0.264	<0.005/1.260	0.175/0.375	
	Total Nitrogen (mg/L)	115	1.83	1.64	0.60/6.55	1.19/2.19	
	Nitrate/Nitrite (mg/L)	116	0.43	0.18	<0.05/3.18	<0.05/0.70	
	Chlorophyll A (mg/m^3)	49	39.2	31.8	5.3/135.0	17.8/54.6	TSI=66.6
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	29	915	120	<10/9100	26/500	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	29	433	20	<10/5794	<10/73	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						S	S	S
Aesthetics												NEI
Agriculture					S		S	NS				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Canadian River at Purcell

Sample Record	Times Visited	Station ID
February 1999 - Current	172	520610010010-001AT

Stream Data

County	McClain	Request Data By Email
Location	East of the Town of Purcell on State Highway 77	
Latitude/Longitude	35.01433266, -97.35035449	
Planning Watershed	Central (8-digit HUC - 11090202)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	152	17.2	18.6	-2.3/34.1	10.9/24.7	
	Turbidity (NTU)	151	124	30	4/>1000	13/122	
	pH (units)	152	8.34	8.25	7.36/9.85	8.06/8.56	
	Dissolved Oxygen (mg/L)	152	10.44	10.20	4.21/26.87	8.21/12.33	
	Hardness (mg/L)	154	417	424	74/990	296/528	
Minerals	Total Dissolved Solids (mg/L)	91	786	774	285/1804	640/938	
	Specific Conductivity (uS/cm)	153	1224	1219	303/2215	897/1571	
	Chloride (mg/L)	156	135	125	20/419	87/180	
	Sulfate (mg/L)	156	271	269	41/972	180/332	
Nutrients	Total Phosphorus (mg/L)	164	0.554	0.442	<0.010/2.770	0.280/0.730	
	Total Nitrogen (mg/L)	157	3.04	2.70	0.56/11.87	2.06/3.68	
	Nitrate/Nitrite (mg/L)	158	1.25	0.92	<0.05/9.69	0.33/1.58	
	Chlorophyll A (mg/m^3)	96	57.5	30.1	0.5/211.0	11.1/99.0	TSI=70.3
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	35	2243	345	<10/31700	100/921	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	35	983	41	<10/19863	13/687	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						U	S	S
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

U = Assessment yielded undetermined supporting status

Canadian River at Taloga

Sample Record	Times Visited	Station ID
November 1998 - 2012	106	520620020010-001AT

Stream Data

County	Dewey	Request Data By Email
Location	North of the Town of Taloga on State Highway 183	
Latitude/Longitude	36.05419703, -98.96894778	
Planning Watershed	West-Central (8-digit HUC - 11090201)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	93	15.2	15.9	-0.5/32.6	7.5/22.9	
	Turbidity (NTU)	99	46	17	2/>1000	10/36	
	pH (units)	93	8.08	8.08	7.36/8.70	7.94/8.25	
	Dissolved Oxygen (mg/L)	93	10.24	9.50	1.13/21.02	8.22/11.95	
	Hardness (mg/L)	94	709	678	58/1425	560/793	
Minerals	Total Dissolved Solids (mg/L)	45	1608	1540	615/3410	1420/1748	
	Specific Conductivity (uS/cm)	96	2337	2400	711/4187	2102/2595	
	Chloride (mg/L)	94	371	388	66/749	294/445	19% of values>OWQS
	Sulfate (mg/L)	95	550	462	141/1681	382/590	
Nutrients	Total Phosphorus (mg/L)	99	0.071	0.032	<0.005/1.890	0.019/0.056	
	Total Nitrogen (mg/L)	94	0.87	0.70	0.20/5.29	0.48/0.90	
	Nitrate/Nitrite (mg/L)	95	0.29	0.13	<0.05/2.82	<0.05/0.30	
	Chlorophyll A (mg/m^3)	0	0.0	0.0	0/0	0/0	No Data
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	17	308	50	<10/3000	<10/350	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	17	42	20	<10/253	<10/36	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						S	S	S
Aesthetics												S
Agriculture					S		NS	S				
Primary Body Contact Recreation									S			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Canadian River at Whitefield

Sample Record	Times Visited	Station ID
September 1999 - Current	152	220300000010-001AT

Stream Data

County	Haskell	Request Data by Email
Location	North of the Town of Whitefield on State Highway 2	
Latitude/Longitude	35.26306098, -95.23915454	
Planning Watershed	Lower Arkansas (8-digit HUC - 11090204)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	145	18.4	20.0	1.3/33.0	11.9/24.9	
	Turbidity (NTU)	147	21	6	1/812	4/18	
	pH (units)	144	7.95	7.96	6.39/8.68	7.75/8.19	
	Dissolved Oxygen (mg/L)	144	9.07	9.08	2.25/18.95	7.12/10.88	
	Hardness (mg/L)	145	147	144	43/317	127/161	
Minerals	Total Dissolved Solids (mg/L)	81	224	214	169/480	196/242	
	Specific Conductivity (uS/cm)	144	422	416	197/720	369/480	
	Chloride (mg/L)	148	40	36	14/74	30/49	
	Sulfate (mg/L)	148	45	43	23/100	36/56	
Nutrients	Total Phosphorus (mg/L)	150	0.058	0.044	<0.010/0.950	0.030/0.070	
	Total Nitrogen (mg/L)	149	0.65	0.61	0.21/1.40	0.47/0.80	
	Nitrate/Nitrite (mg/L)	150	0.172	0.140	<0.05/0.56	<0.05/0.25	
	Chlorophyll A (mg/m^3)	74	5.1	4.0	0.1/28.0	2.6/6.1	TSI=46.5
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	37	217	10	<10/6867	<10/19	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	37	85	23	<10/1860	<10/38.23	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						U	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									S			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes *U = Assessment yielded undetermined supporting status*

Caney Creek at Barber

Sample Record	Times Visited	Station ID
September 1999 - 2012	145	121700040010-001AT

Stream Data

County	Cherokee	Request Data by Email
Location	North of the Town of Barber off State Highway 100	
Latitude/Longitude	35.72381643, -94.85787184	
Planning Watershed	Lower Arkansas (8-digit HUC - 11110103)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	99	18.1	17.6	4.1/29.3	13.0/23.3	
	Turbidity (NTU)	100	4	2	1/103	1/3	
	pH (units)	97	7.77	7.76	6.46/9.06	7.56/8.02	
	Dissolved Oxygen (mg/L)	99	9.66	9.42	3.94/15.60	8.29/11.12	
	Hardness (mg/L)	99	109	109	64/174	98/120	
Minerals	Total Dissolved Solids (mg/L)	12	149	143	116/237	133/157	
	Specific Conductivity (uS/cm)	99	219	218	123/391	200/243	
	Chloride (mg/L)	90	9	10	<5/37	<5/10	
	Sulfate (mg/L)	90	9	10	<5/33	7/10	
Nutrients	Total Phosphorus (mg/L)	105	0.060	0.037	<0.005/1.532	0.030/0.047	
	Total Nitrogen (mg/L)	104	1.14	1.05	0.18/7.06	0.71/1.41	
	Nitrate/Nitrite (mg/L)	105	0.99	0.91	0.06/6.68	0.55/1.26	
	Chlorophyll A (mg/m^3)	53	1.3	0.8	<0.1/12.1	0.5/1.2	TSI=32.9
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	46	94	20	<10/1408	<10/52	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	46	124	15	<10/2382	<10/41	Mean>OWQS

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chloride	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						S	NS	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Caney River at Ramona

Sample Record	Times Visited	Station ID
December 1998 - Current	169	121400010010-001AT

Stream Data

County	Washington	Request Data by Email
Location	Southeast of the Town of Ramona on County Road E0350	
Latitude/Longitude	36.50889974, -95.84265966	
Planning Watershed	Middle Arkansas (8-digit HUC - 11070106)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	152	17.5	18.3	0.8/35.1	10.2/25.3	
	Turbidity (NTU)	155	107	51	6/>1000	28/108	13% of values>OWQS
	pH (units)	152	7.87	7.84	6.65/9.09	7.66/8.06	
	Dissolved Oxygen (mg/L)	152	9.15	8.60	3.46/18.08	7.14/11.09	
	Hardness (mg/L)	153	152	154	<10/358	120/174	
Minerals	Total Dissolved Solids (mg/L)	41	215	220	20/350	164/277	
	Specific Conductivity (uS/cm)	151	375	369	38/989	286/469	
	Chloride (mg/L)	106	39	25	<10/377	14/50	
	Sulfate (mg/L)	106	31	27	<10/112	19/38	
Nutrients	Total Phosphorus (mg/L)	162	0.150	0.121	<0.010/0.730	0.080/0.180	
	Total Nitrogen (mg/L)	161	1.27	1.05	0.26/4.36	0.79/1.39	
	Nitrate/Nitrite (mg/L)	162	0.42	0.28	<0.05/2.90	0.09/0.45	
	Chlorophyll A (mg/m^3)	94	22.9	12.8	<0.5/268.0	7.7/27.0	TSI=61.3
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	46	2061	45	<10/87000	20/172	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	46	233	52	<10/5475	14/107	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	NS						S	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes: *Fish & Wildlife Propagation not supporting for Lead*

Chikaskia River at Blackwell

Sample Record	Times Visited	Station ID
December 1998 - Current	163	621100000010-001AT

Stream Data

County	Kay	Request Data by Email
Location	East of the Town of Blackwell on State Highway 177	
Latitude/Longitude	36.81155311, -97.27808293	
Planning Watershed	Upper Arkansas (8-digit HUC - 11060005)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	154	16.9	17.0	-0.9/34.0	9.4/25.7	
	Turbidity (NTU)	155	120	42	5/>1000	23/90	22% of values>OWQS
	pH (units)	152	8.02	8.05	6.24/9.29	7.83/8.27	
	Dissolved Oxygen (mg/L)	154	10.73	9.58	2.53/48.86	8.28/12.44	
	Hardness (mg/L)	153	372	331	80/3720	248/405	
Minerals	Total Dissolved Solids (mg/L)	88	672	587	195/3840	490/681	
	Specific Conductivity (uS/cm)	154	996	916	33/6238	698/1125	
	Chloride (mg/L)	153	152	118	12/1970	73/160	
	Sulfate (mg/L)	153	120	106	30/765	83/137	
Nutrients	Total Phosphorus (mg/L)	161	0.202	0.151	<0.010/1.240	0.090/0.250	
	Total Nitrogen (mg/L)	152	1.79	1.73	0.48/6.63	1.23/2.24	
	Nitrate/Nitrite (mg/L)	153	0.91	0.81	<0.05/3.09	0.27/1.35	
	Chlorophyll A (mg/m^3)	92	20.0	13.0	0.1/138.0	4.8/28.8	TSI=60
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	34	5317	156	20/147000	52/1700	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	34	331	20	<10/3968	<10/256	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	S						S	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Chikaskia River at Tonkawa

Sample Record	Times Visited	Station ID
March 2013 - Current	39	621100000010-002RS

Stream Data

County	Kay	Request Data by Email
Location	Northeast of the Town of Tonkawa off State Highway 60	
Latitude/Longitude	36.637358, -97.23295	
Planning Watershed	Upper Arkansas (8-digit HUC - 11060005)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	42	17.4	19.8	0/28.5	10.0/25.9	
In-Situ	Turbidity (NTU)	42	102	31	6/>1000	12/103	27% of values>OWQS
In-Situ	pH (units)	42	8.05	8.07	6.79/8.62	7.90/8.33	
In-Situ	Dissolved Oxygen (mg/L)	42	9.79	9.11	3.70/14.70	7.25/12.27	
In-Situ	Hardness (mg/L)	39	349	335	89/536	266/456	
Minerals	Total Dissolved Solids (mg/L)	36	576	563	220/886	469/679	
Minerals	Specific Conductivity (uS/cm)	41	1040	1000	191/4588	741/1162	
Minerals	Chloride (mg/L)	36	125	129	<10/238	80/1634	
Minerals	Sulfate (mg/L)	36	136	133	63/257	95/163	
Nutrients	Total Phosphorus (mg/L)	36	0.208	0.151	0.030/1.110	0.060/0.280	
Nutrients	Total Nitrogen (mg/L)	36	1.52	1.36	0.68/3.71	1.03/1.74	
Nutrients	Nitrate/Nitrite (mg/L)	36	0.43	0.34	<0.05/1.08	<0.05/0.80	
Nutrients	Chlorophyll A (mg/m^3)	36	28.5	29.7	3.2/111.0	13.1/39.7	TSI=63.4
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	6	836	58	301/2420	31/2420	
Bacteria	E. Coli (cfu/100ml)(*-Geo. Mn.)	6	154	<10	<10/461	<10/461	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	S						S	NEI	S
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									NEI			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Cimarron River at Ames

Sample Record	Times Visited	Station ID
March 2003 - Current	121	620910020010-004RS

Stream Data

County	Major	Request Data by Email
Location	West of the Town of Ames off State Highway 8	
Latitude/Longitude	36.27979304, -98.31895336	
Planning Watershed	Central (8-digit HUC - 11050002)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	111	17.9	18.9	-0.9/39.2	10.0/25.3	
	Turbidity (NTU)	114	36	7	1/>1000	4/15	
	pH (units)	111	8.07	8.08	7.40/8.57	7.96/8.19	
	Dissolved Oxygen (mg/L)	111	10.53	10.50	5.07/21.06	8.93/11.89	
	Hardness (mg/L)	112	1023	1049	422/1815	809/1219	
Minerals	Total Dissolved Solids (mg/L)	70	10192	9135	2050/21700	6503/13025	52% of values>OWQS
	Specific Conductivity (uS/cm)	111	16585	16270	3765/36987	10722/22920	
	Chloride (mg/L)	112	5445	4555	181/13700	3183/7760	39% of values>OWQS
	Sulfate (mg/L)	112	797	792	300/3210	640/904	32% of values>OWQS
Nutrients	Total Phosphorus (mg/L)	112	0.049	0.027	<0.010/0.710	0.020/0.040	
	Total Nitrogen (mg/L)	112	0.95	0.89	0.45/2.69	0.70/1.16	
	Nitrate/Nitrite (mg/L)	112	0.31	0.21	<0.05/1.13	<0.05/0.43	
	Chlorophyll A (mg/m^3)	76	14.7	11.0	1.2/64.9	6.5/22.3	TSI=56.9
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	35	250	52	<10/1203	<10/211	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	35	1111	813	20/3255	228/2420	Mean>OWQS

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	NS						NS	S	S
Aesthetics												S
Agriculture					NS		NS	NS				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish & Wildlife Propagation not supporting for Selenium

Cimarron River at Buffalo

Sample Record	Times Visited	Station ID
November 1998 - 2012	123	620920030010-001AT

Stream Data

County	Woods	Request Data by Email
Location	East of the Town of Buffalo on State Highway 34	
Latitude/Longitude	36.85209062, -99.31622871	
Planning Watershed	Panhandle (8-digit HUC - 11050001)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	110	18.1	17.9	-1.0/36.2	9.8/26.5	
	Turbidity (NTU)	112	23	8	2/715	4/18	
	pH (units)	109	8.06	8.10	7.17/8.70	7.89/8.26	
	Dissolved Oxygen (mg/L)	107	9.76	9.30	0.67/23.17	8.01/11.43	
	Hardness (mg/L)	109	1002	800	119/7000	640/1236	
Minerals	Total Dissolved Solids (mg/L)	49	10596	6060	1746/40000	4129/12750	16% of values>OWQS
	Specific Conductivity (uS/cm)	110	15831	12466	2030/61252	7713/19014	
	Chloride (mg/L)	110	5073	3890	630/24100	2220/5956	20% of values>OWQS
	Sulfate (mg/L)	110	613	498	196/1620	366/790	
Nutrients	Total Phosphorus (mg/L)	110	0.080	0.054	<0.005/0.392	0.035/0.096	
	Total Nitrogen (mg/L)	109	0.77	0.63	0.23/2.59	0.46/0.97	
	Nitrate/Nitrite (mg/L)	110	0.20	<0.05	<0.05/1.85	<0.05/0.21	
	Chlorophyll A (mg/m^3)	0	0.0	0.0	0/0	0/0	No Data
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	22	1160	155	<10/11000	38/1500	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	22	5818	4242	<10/24199	414/7817	Mean>OWQS

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						NS	NS	NS
Aesthetics												S
Agriculture					S		NS	NS				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Sampling and Assessment by the **Oklahoma Water Resources Board** – 3800 Classen Blvd, Oklahoma City, OK, 73118 – 405.530.8800 – http://www.owrb.ok.gov

Cimarron River at Dover

Sample Record	Times Visited	Station ID
December 1998 - 2012	138	620910020010-001AT

Stream Data

County	Kingfisher	Request Data by Email
Location	South of the Town of Dover on US 81	
Latitude/Longitude	35.95153084, -97.91407037	
Planning Watershed	Central (8-digit HUC -11050002)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	117	17.7	17.5	-0.3/37.7	9.7/25.3	
	Turbidity (NTU)	121	135	20	3/>1000	11/84	
	pH (units)	117	8.04	8.08	7.00/8.56	7.91/8.20	
	Dissolved Oxygen (mg/L)	116	10.09	9.78	4.73/20.53	8.27/11.89	
	Hardness (mg/L)	119	833	836	100/2160	632/997	
Minerals	Total Dissolved Solids (mg/L)	52	6130	6244	305/12300	3699/8555	
	Specific Conductivity (uS/cm)	117	11376	11352	134/28860	7765/14832	
	Chloride (mg/L)	118	3462	2949	47/10300	2165/4785	
	Sulfate (mg/L)	119	612	639	96/1025	489/741	
Nutrients	Total Phosphorus (mg/L)	119	0.195	0.084	<0.005/2.350	0.051/0.197	
	Total Nitrogen (mg/L)	118	1.27	1.09	0.53/5.72	0.81/1.47	
	Nitrate/Nitrite (mg/L)	119	0.43	0.29	<0.05/1.73	0.09/0.71	
	Chlorophyll A (mg/m^3)	37	19.2	18.7	1.3/46.5	5.6/31.3	TSI=59.6
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	27	4634	60	<10/87000	<10/600	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	27	1390	487	<10/9208	183/1483	Mean>OWQS

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	NS						U	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish & Wildlife Propagation not supporting for Selenium
U = Assessment yielded undetermined supporting status

Cimarron River at Guthrie

Sample Record	Times Visited	Station ID
December 1998 - Current	168	620910010010-001AT

Stream Data

County	Logan	Request Data by Email
Location	North of the Town of Guthrie on US 77	
Latitude/Longitude	35.91981845, -97.4257038	
Planning Watershed	Central (8-digit HUC -11050002)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	157	17.7	17.4	-1.1/37.3	9.0/25.8	
	Turbidity (NTU)	159	135	33	6/>1000	16/76	13% of values>OWQS
	pH (units)	157	8.13	8.13	7.06/9.72	7.93/8.32	
	Dissolved Oxygen (mg/L)	156	9.95	9.75	4.55/18.09	8.20/11.75	
	Hardness (mg/L)	156	650	615	196/1890	500/781	
Minerals	Total Dissolved Solids (mg/L)	92	4322	4415	1108/9510	2955/5308	
	Specific Conductivity (uS/cm)	154	8110	7877	863/19499	5499/10321	
	Chloride (mg/L)	160	2246	2210	91/6500	1422/2690	
	Sulfate (mg/L)	159	440	451	115/851	330/549	
Nutrients	Total Phosphorus (mg/L)	160	0.401	0.323	0.030/1.580	0.230/0.500	
	Total Nitrogen (mg/L)	159	2.13	1.84	0.58/6.40	1.50/2.38	
	Nitrate/Nitrite (mg/L)	160	1.09	0.91	<0.05/4.99	0.49/1.40	
	Chlorophyll A (mg/m^3)	96	29.2	26.1	2.3/86.2	14.9/41.5	TSI=63.7
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	32	1469	149	<10/18000	51/1925	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	32	321.07	121.12	<10/2415	51/510	Mean>OWQS

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	S						U	S	S
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

U = Assessment yielded undetermined supporting status

Sampling and Assessment by the **Oklahoma Water Resources Board** – 3800 Classen Blvd, Oklahoma City, OK, 73118 – 405.530.8800 – http://www.owrb.ok.gov

Cimarron River at Mocane

Sample Record	Times Visited	Station ID
October 1999 - Current	150	620930000010-001AT

Stream Data

County	Beaver	Request Data by Email
Location	North of the Town of Mocane off of US 64	
Latitude/Longitude	36.97516467, -100.3141738	
Planning Watershed	Panhandle (8-digit HUC -11040006)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	146	17.9	18.1	-0.6/34.9	10.3/25.1	
	Turbidity (NTU)	148	25	13	3/>1000	6/24	
	pH (units)	140	8.30	8.30	7.64/9.40	8.11/8.50	
	Dissolved Oxygen (mg/L)	146	10.20	9.70	5.25/21.82	8.56/11.43	
	Hardness (mg/L)	146	478	471	47/840	422/537	
Minerals	Total Dissolved Solids (mg/L)	85	2838	2850	2224/3610	2600/3070	
	Specific Conductivity (uS/cm)	146	4603	4553	405/8438	4259/5124	
	Chloride (mg/L)	142	1395	1380	184/2347	1207/1630	
	Sulfate (mg/L)	143	208	206	96/339	193/228	
Nutrients	Total Phosphorus (mg/L)	144	0.306	0.226	<0.010/1.320	0.070/0.500	
	Total Nitrogen (mg/L)	144	1.64	1.23	0.05/6.10	0.68/2.45	
	Nitrate/Nitrite (mg/L)	144	0.90	0.30	<0.05/5.48	<0.05/1.40	
	Chlorophyll A (mg/m^3)	59	25.6	8.7	1.6/441.0	5.4/14.0	TSI=62.4
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	34	864	158	<10/9000	49/816	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	34	309	102	<10/1986	39/230	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	NS						S	NS	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes: *Fish & Wildlife Propagation not supporting for Selenium*

Sampling and Assessment by the **Oklahoma Water Resources Board** – 3800 Classen Blvd, Oklahoma City, OK, 73118 – 405.530.8800 – http://www.owrb.ok.gov

Cimarron River at Oilton

Sample Record	Times Visited	Station ID
December 1998 - 2012	136	620900010170-001AT

Stream Data

County	Creek	Request Data by Email
Location	North of the Town of Oilton off State Highway 99	
Latitude/Longitude	36.09442186, -96.5787792	
Planning Watershed	Upper Arkansas (8-digit HUC - 11050003)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	121	17.7	17.4	-0.9/35.3	9.2/26.1	
	Turbidity (NTU)	120	207	55	4/>1000	25/159	35% of values>OWQS
	pH (units)	120	8.22	8.23	7.11/9.31	7.95/8.50	13% of values>OWQS
	Dissolved Oxygen (mg/L)	121	9.81	9.13	0.72/24.36	7.25/11.80	
	Hardness (mg/L)	119	481	498	34/1300	330/594	
Minerals	Total Dissolved Solids (mg/L)	52	2820	2757	10/13654	1680/3585	
	Specific Conductivity (uS/cm)	121	5093	5009	518/16339	2842/6990	
	Chloride (mg/L)	116	1464	1353	115/5600	848/1993	
	Sulfate (mg/L)	118	317	305	86/681	216/406	
Nutrients	Total Phosphorus (mg/L)	119	0.365	0.268	<0.005/1.780	0.176/0.455	
	Total Nitrogen (mg/L)	117	1.96	1.67	0.49/5.70	1.29/2.39	
	Nitrate/Nitrite (mg/L)	119	0.46	0.29	<0.05/1.86	<0.05/0.85	
	Chlorophyll A (mg/m^3)	36	47.0	31.9	0.1/304.0	15.4/58.5	TSI=68.4
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	28	738	86	<10/6000	30/421	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	28	162	20	<10/2014	<10/97	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	NS	S	S						NS	S	S
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			
Fish Consumption				NS								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes: *Fish Consumption not supporting for Lead*

Cimarron River at Ripley

Sample Record	Times Visited	Station ID
October 2000 - Current	150	620900030010-001AT

Stream Data

County	Payne	Request Data by Email
Location	South of the Town of Ripley on State Highway 33	
Latitude/Longitude	35.98570275, -96.91305015	
Planning Watershed	Upper Arkansas (8-digit HUC - 11050003)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	136	17.7	18.8	-1.0/35.5	9.0/26.2	
	Turbidity (NTU)	137	180	38	5/>1000	15/132	
	pH (units)	135	8.26	8.28	7.15/9.18	7.92/8.59	
	Dissolved Oxygen (mg/L)	136	10.39	9.86	4.16/19.26	7.80/12.87	
	Hardness (mg/L)	137	516	521	142/1050	400/620	
Minerals	Total Dissolved Solids (mg/L)	77	3562	3780	470/7500	2185/4685	
	Specific Conductivity (uS/cm)	136	6015	5793	465/13560	3688/8089	
	Chloride (mg/L)	141	1816	1790	168/4490	1098/2375	
	Sulfate (mg/L)	140	332	329	61/660	250/420	
Nutrients	Total Phosphorus (mg/L)	141	0.380	0.303	0.110/1.370	0.230/0.460	
	Total Nitrogen (mg/L)	140	2.01	1.72	0.83/6.62	1.39/2.26	
	Nitrate/Nitrite (mg/L)	141	0.54	0.30	<0.05/4.96	<0.05/0.93	
	Chlorophyll A (mg/m^3)	82	60.5	45.0	0.7/474.0	23.4/82.6	TSI=71
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	40	567	120	<10/4000	30/400	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	40	342	26	<10/3654	<10/186	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						S	S	S
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			
Fish Consumption				NS								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes *Fish Consumption not supporting for Lead*

Cimarron River at Waynoka

Sample Record	Times Visited	Station ID
March 2003 - Current	98	620920020010-001RS

Stream Data

County	Woods	Request Data by Email
Location	South of the Town of Waynoka on State Highway 281	
Latitude/Longitude	36.516709, -98.87990179	
Planning Watershed	Central (8-digit HUC - 11050001)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	95	19.5	18.9	-1.5/37.4	12.8/27.4	
	Turbidity (NTU)	96	32	5	1/>1000	3/11	
	pH (units)	93	7.92	7.92	7.28/8.35	7.82/8.06	
	Dissolved Oxygen (mg/L)	94	8.87	8.52	3.70/13.52	7.77/9.78	
	Hardness (mg/L)	95	1670	1460	162/9160	1150/1756	
Minerals	Total Dissolved Solids (mg/L)	62	27680	26300	8450/55400	17850/35125	92% of values>OWQS
	Specific Conductivity (uS/cm)	95	38563	37019	7575/74949	27479/50226	
	Chloride (mg/L)	96	13976	12650	804/31900	8780/19398	92% of values>OWQS
	Sulfate (mg/L)	96	1084	1070	426/1760	903/1240	
Nutrients	Total Phosphorus (mg/L)	95	0.043	0.026	<0.010/0.630	<0.010/0.040	
	Total Nitrogen (mg/L)	96	0.60	0.54	0.25/1.99	0.44/0.69	
	Nitrate/Nitrite (mg/L)	96	0.08	0.05	<0.05/0.99	<0.05/0.05	
	Chlorophyll A (mg/m^3)	54	6.4	4.6	0.9/26.7	2.6/7.8	TSI=48.8
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	20	301	60	<10/1300	13/175	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	20	1416	1011	52/7270	579/1728	Mean>OWQS

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	NS						NS	S	S
Aesthetics												S
Agriculture					S		NS	NS				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				NS								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish & Wildlife Propagation not supporting for Selenium
Fish Consumption not supporting for Mercury

Sampling and Assessment by the **Oklahoma Water Resources Board** – 3800 Classen Blvd, Oklahoma City, OK, 73118 – 405.530.8800 – http://www.owrb.ok.gov

Clear Boggy Creek at Caney

Sample Record	Times Visited	Station ID
November 1998 - Current	172	410400030010-001AT

Stream Data

County	Atoka	Request Data by Email
Location	North of the Town of Caney on US 69	
Latitude/Longitude	34.25148276, -96.2052689	
Planning Watershed	Blue-Boggy (8-digit HUC -11140104)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	156	18.1	18.0	1.0/31.8	11.4/25.5	
	Turbidity (NTU)	158	95	42	4/>1000	16/81	
	pH (units)	155	7.93	8.00	6.48/9.32	7.74/8.13	
	Dissolved Oxygen (mg/L)	156	8.76	8.41	4.73/22.11	6.93/9.96	
	Hardness (mg/L)	157	204	205	<10/323	167/254	
Minerals	Total Dissolved Solids (mg/L)	41	272	258	8/843	222/323	
	Specific Conductivity (uS/cm)	155	453	450	117/1154	338/556	
	Chloride (mg/L)	106	32	23	<10/416	13/37	
	Sulfate (mg/L)	106	30	28	<10/101	23/34	
Nutrients	Total Phosphorus (mg/L)	160	0.160	0.095	<0.010/1.080	0.060/0.160	
	Total Nitrogen (mg/L)	158	0.78	0.59	0.05/3.39	0.41/0.94	
	Nitrate/Nitrite (mg/L)	158	0.13	0.05	<0.05/1.19	<0.05/0.16	
	Chlorophyll A (mg/m^3)	42	4.9	3.8	0.9/18.2	1.7/6.6	TSI=46.1
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	39	869	150	<10/5000	30/1733	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	39	454	74	<10/2420	20/488	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	NS						S	S	NS
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish & Wildlife Propagation not supporting for Lead

Cow Creek at Waurika

Sample Record	Times Visited	Station ID
December 1998 - Current	80	311200000060-001AT

Stream Data

County	Jefferson	Request Data by Email
Location	North of Waurika off State Highway 81	
Latitude/Longitude	34.169208, -98.004862	
Planning Watershed	Northern Beaver (8-digit HUC - 11130208)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	77	18.2	18.7	3.6/31.5	10.8/26.6	
In-Situ	Turbidity (NTU)	78	110	55	19/736	43/117	36% of values>OWQS
In-Situ	pH (units)	77	8.04	8.05	7.35/9.06	7.79/8.30	
In-Situ	Dissolved Oxygen (mg/L)	77	7.85	7.29	2.63/12.79	6.09/9.55	
In-Situ	Hardness (mg/L)	80	273	268	62/556	197/344	
Minerals	Total Dissolved Solids (mg/L)	58	492	529	136/1066	304/635	
Minerals	Specific Conductivity (uS/cm)	77	872	861	157/1820	530/1162	
Minerals	Chloride (mg/L)	79	109	93	12/1145	43/129	
Minerals	Sulfate (mg/L)	79	100	93	24/521	57/119	
Nutrients	Total Phosphorus (mg/L)	79	0.948	0.615	0.210/5.550	0.410/1.310	
Nutrients	Total Nitrogen (mg/L)	79	4.51	2.48	0.68/16.96	1.48/5.80	
Nutrients	Nitrate/Nitrite (mg/L)	79	3.28	0.94	<0.05/15.50	0.48/4.31	
Nutrients	Chlorophyll A (mg/m^3)	39	16.1	12.3	0.8/62.6	1.6/24.1	TSI=57.9
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	14	1274	380	130/8000	201/488	
Bacteria	E. Coli (cfu/100ml)(*-Geo. Mn.)	14	374	115	20/1733	49/343	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	S						NEI	S	S
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									NEI			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Deep Fork River at Beggs

Sample Record	Times Visited	Station ID
November 1998 - Current	165	520700020010-001AT

Stream Data

County	Okmulgee	Request Data By Email
Location	South of the Town of Beggs off State Highway 16	
Latitude/Longitude	35.67424336, -96.06876654	
Planning Watershed	Eufaula (8-digit HUC -11100303)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	150	17.7	18.4	0.7/33.0	9.7/25.3	
	Turbidity (NTU)	151	170	84	7/>1000	47/218	37% of values>OWQS
	pH (units)	151	7.85	7.84	6.82/9.06	7.62/8.05	
	Dissolved Oxygen (mg/L)	150	8.49	7.87	3.73/17.19	6.39/10.24	
	Hardness (mg/L)	148	227	211	27/1500	167/278	
Minerals	Total Dissolved Solids (mg/L)	97	375	350	50/765	271/476	
	Specific Conductivity (uS/cm)	150	677	632	90/1469	435/900	
	Chloride (mg/L)	157	98	86	<10/273	50/139	
	Sulfate (mg/L)	157	47	43	<10/129	33/58	
Nutrients	Total Phosphorus (mg/L)	156	0.176	0.155	<0.010/0.790	0.100/0.220	
	Total Nitrogen (mg/L)	156	1.21	1.01	0.05/3.53	0.74/1.68	
	Nitrate/Nitrite (mg/L)	157	0.31	0.24	<0.05/2.87	<0.05/0.43	
	Chlorophyll A (mg/m^3)	57	23.4	11.6	2.2/138.0	7.1/26.3	TSI=61.5
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	38	3519	151	<10/113000	41/770	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	38	587	47	<10/14136	<10/201	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	S						NS	S	S
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Deep Fork River at Stroud

Sample Record	Times Visited	Station ID
November 1998 – December 2012	136	520700040010-001AT

Stream Data

County	Lincoln	Request Data By Email
Location	South of the Town of Stroud on US 377	
Latitude/Longitude	35.68609365, -96.6622792	
Planning Watershed	Central (8-digit HUC -11100303)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	110	17.8	18.0	-0.3/39.3	11.0/24.7	
In-Situ	Turbidity (NTU)	108	165	28	4/>1000	14/195	
In-Situ	pH (units)	110	8.21	8.24	7.02/9.65	8.04/8.47	
In-Situ	Dissolved Oxygen (mg/L)	110	9.15	9.12	4.50/14.65	7.63/10.26	
In-Situ	Hardness (mg/L)	110	263	284	63/541	196/320	
Minerals	Total Dissolved Solids (mg/L)	54	456	504	128/922	326/554	
Minerals	Specific Conductivity (uS/cm)	110	803	838	18/1990	549/1015	
Minerals	Chloride (mg/L)	114	111	108	10/500	54/145	
Minerals	Sulfate (mg/L)	114	54	47	19/174	36/60	
Nutrients	Total Phosphorus (mg/L)	122	0.295	0.215	0.017/1.767	0.150/0.350	
Nutrients	Total Nitrogen (mg/L)	113	1.23	1.03	0.32/4.63	0.65/1.59	
Nutrients	Nitrate/Nitrite (mg/L)	114	0.37	0.24	<0.05/2.73	<0.05/0.47	
Nutrients	Chlorophyll A (mg/m^3)	16	11.0	8.9	1.4/35.0	2.2/14.9	TSI=54.1
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	28	818	283	<10/6131	89/990	Mean>OWQS
Bacteria	E. Coli (cfu/100ml)(*-Geo. Mn.)	28	202	63	<10/1785	20/239	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						S	S	S
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Deep Red Creek at Randlett

Sample Record	Times Visited	Station ID
January 2013 - Current	24	311310030010-001AT

Stream Data

County	Cotton	Request Data By Email
Location	North of the Town of Randlett on US 277	
Latitude/Longitude	34.220833, -98.452778	
Planning Watershed	West Cache (8-digit HUC -11130203)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	24	19.1	19.4	4.9/29.5	14.4/26.3	
	Turbidity (NTU)	24	254	201	28/825	98/273	91% of values>OWQS
	pH (units)	24	8.22	8.25	7.66/8.87	7.97/8.41	
	Dissolved Oxygen (mg/L)	24	7.45	8.25	3.60/10.70	5.05/9.39	
	Hardness (mg/L)	24	162	153	75/274	129/186	
Minerals	Total Dissolved Solids (mg/L)	24	351	290	240/751	272/314	100% of values>OWQS
	Specific Conductivity (uS/cm)	24	510	414	249/1348	354/550	
	Chloride (mg/L)	24	66	34	16/261	24/59	
	Sulfate (mg/L)	24	60	56	27/96	35/86	
Nutrients	Total Phosphorus (mg/L)	24	0.251	0.191	0.050/0.550	0.120/0.410	
	Total Nitrogen (mg/L)	24	1.82	1.56	0.89/2.85	1.43/2.43	
	Nitrate/Nitrite (mg/L)	24	0.22	0.13	<0.05/0.64	<0.05/0.41	
	Chlorophyll A (mg/m^3)	24	21.5	22.6	3.4/42.9	7.4/32.1	TSI=60.7
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	10	1396	727	687/2420	717/2420	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	10	672	148	129/2420	143/993	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	S						S	S	S
Aesthetics												NEI
Agriculture					S		S	NS				
Primary Body Contact Recreation									NEI			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

East Cache Creek at Walters

Sample Record	Times Visited	Station ID
November 1998 - Current	163	311300010020-001AT

Stream Data

County	Cotton	Request Data By Email
Location	East of the Town of Walters on State Highway 53	
Latitude/Longitude	34.36188194, -98.28233417	
Planning Watershed	Beaver-Cache (8-digit HUC -11130202)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	152	18.1	18.6	2.1/35.4	11.2/26.2	
In-Situ	Turbidity (NTU)	153	84	54	5/809	27/89	36% of values>OWQS
In-Situ	pH (units)	151	7.93	7.88	7.37/8.64	7.71/8.11	
In-Situ	Dissolved Oxygen (mg/L)	152	8.41	7.72	3.39/16.10	6.51/10.41	
In-Situ	Hardness (mg/L)	153	219	207	95/638	175/249	
Minerals	Total Dissolved Solids (mg/L)	94	482	466	154/916	378/598	
Minerals	Specific Conductivity (uS/cm)	151	763	759	160/1893	594/895	
Minerals	Chloride (mg/L)	159	76	79	<10/194	47/95	
Minerals	Sulfate (mg/L)	159	96	91	31/326	69/115	
Nutrients	Total Phosphorus (mg/L)	159	1.042	0.963	0.050/3.580	0.490/1.450	
Nutrients	Total Nitrogen (mg/L)	159	4.42	4.14	0.68/11.80	2.05/5.72	
Nutrients	Nitrate/Nitrite (mg/L)	159	3.08	2.62	<0.05/9.93	0.99/4.39	
Nutrients	Chlorophyll A (mg/m^3)	53	15.8	8.4	1.0/77.7	5.3/17.6	TSI=57.7
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	36	2130	700	109/43000	257/1120	Mean>OWQS
Bacteria	E. Coli (cfu/100ml)(*-Geo. Mn.)	36	330	158	<10/4352	74/395	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	NS						S	S	S
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish & Wildlife Propagation not supporting for Selenium

Elk River at Tiff City (MO)

Sample Record	Times Visited	Station ID
May 1999 – December 2012	138	121600030440-001AT

Stream Data

County	McDonald	Request Data By Email
Location	Southeast of the Town of Tiff City (MO) on SH 43	
Latitude/Longitude	36.6314, -94.5867	
Planning Watershed	Grand (8-digit HUC -11070208)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	114	17.5	17.0	4.1/32.9	11.2/24.0	
	Turbidity (NTU)	114	4	2	1/26	2/4	
	pH (units)	113	7.95	7.91	6.64/8.89	7.74/8.18	
	Dissolved Oxygen (mg/L)	114	9.63	9.58	0.02/19.55	7.68/11.25	
	Hardness (mg/L)	113	139	139	15/240	127/153	
Minerals	Total Dissolved Solids (mg/L)	20	177	172	158/261	164/181	
	Specific Conductivity (uS/cm)	113	292	285	3/790	261/316	
	Chloride (mg/L)	100	10	10	<5/19	7/10	
	Sulfate (mg/L)	100	10	10	<5/23	7/11	
Nutrients	Total Phosphorus (mg/L)	114	0.101	0.056	<0.005/0.559	0.031/0.122	
	Total Nitrogen (mg/L)	113	1.80	1.77	0.23/4.52	1.13/2.26	
	Nitrate/Nitrite (mg/L)	114	1.59	1.58	<0.05/4.28	0.94/2.06	
	Chlorophyll A (mg/m^3)	58	2.5	1.2	<0.1/37.4	0.6/2.0	TSI=39.7
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	32	113	46	<10/1300	<10/91	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	32	80	26	<10/563	<10/52	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						S	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									S			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Elk Creek at Roosevelt

Sample Record	Times Visited	Station ID
March 2006 - Current	124	311500030010-002AT

Stream Data

County	Kiowa	Request Data By Email
Location	West of the Town of Roosevelt off State Highway 19	
Latitude/Longitude	34.91426897, -99.1137584	
Planning Watershed	Southwest (8-digit HUC -11120303)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	112	17.6	19.4	-0.7/31.1	9.1/25.4	
	Turbidity (NTU)	117	105	40	3/>1000	23/73	43% of values>OWQS
	pH (units)	111	8.16	8.19	7.45/8.55	8.09/8.28	
	Dissolved Oxygen (mg/L)	112	9.51	8.82	3.58/17.43	6.79/12.23	
	Hardness (mg/L)	117	748	730	212/1980	506/940	
Minerals	Total Dissolved Solids (mg/L)	122	1185	1160	200/2960	817/1513	
	Specific Conductivity (uS/cm)	113	1677	1745	375/3098	1214/2089	
	Chloride (mg/L)	124	139	128	24/428	99/160	
	Sulfate (mg/L)	124	496	476	67/1070	277/685	
Nutrients	Total Phosphorus (mg/L)	83	0.138	0.112	<0.010/0.610	0.070/0.170	
	Total Nitrogen (mg/L)	84	1.38	1.25	0.60/2.58	0.97/1.73	
	Nitrate/Nitrite (mg/L)	84	0.30	0.05	<0.05/1.41	<0.05/0.46	
	Chlorophyll A (mg/m^3)	56	33.0	28.4	0.4/91.7	13.1/44.5	TSI=64.9
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	15	433	63	<10/2420	41/233	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	15	305	62	<10/1733	23/247	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	NS						S	NS	S
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

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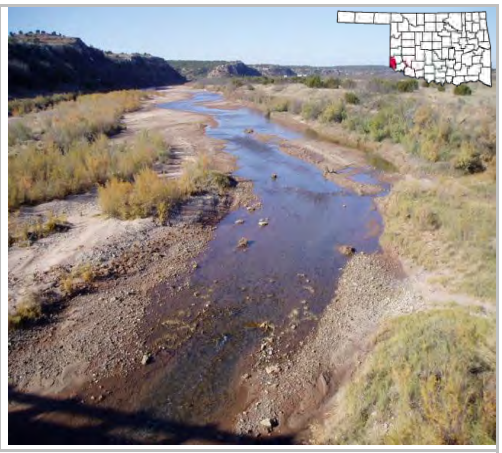
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish & Wildlife Propagation not supporting for Selenium

Elm Fork of the Red River at Carl

Sample Record	Times Visited	Station ID
May 2006 - Current	134	311800000010-002RS



Stream Data

County	Harmon	Request Data By Email
Location	North of the Town of Carl on State Highway 30	
Latitude/Longitude	35.011719, -99.903717	
Planning Watershed	Southwest (8-digit HUC -11120304)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	123	20.3	22.0	-0.9/37.6	12.0/28.6	
	Turbidity (NTU)	128	59	5	1/>1000	3/8	
	pH (units)	122	7.77	7.86	6.80/8.54	7.61/8.02	
	Dissolved Oxygen (mg/L)	124	7.33	7.69	0.91/13.18	5.24/9.34	47% of values<OWQS and 30% of values<alt OWQS
	Hardness (mg/L)	130	4667	3630	856/13670	2638/5523	
Minerals	Total Dissolved Solids (mg/L)	132	60248	31700	900/270000	19375/76430	65% of values>OWQS
	Specific Conductivity (uS/cm)	124	74525	48996	1678/235299	30682/119456	
	Chloride (mg/L)	134	34821	16150	313/181000	8745/42000	100% of values>OWQS
	Sulfate (mg/L)	133	3788	2013	138/231001	1630/2375	48% of values>OWQS
Nutrients	Total Phosphorus (mg/L)	75	0.038	0.007	<0.010/0.950	<0.010/0.010	
	Total Nitrogen (mg/L)	80	1.73	1.49	0.43/4.78	1.11/2.16	
	Nitrate/Nitrite (mg/L)	80	0.30	0.18	<0.05/1.48	0.10/0.43	
	Chlorophyll A (mg/m^3)	43	3.4	2.3	<0.1/21.9	1.5/2.9	TSI=42.7
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	10	485	<10	<10/2420	<10/606	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	10	<10	<10	<10/<10	<10/<10	Not Enough Samples

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	NS	NS						NS	NS	S
Aesthetics												S
Agriculture					NS		NS	NS				
Primary Body Contact Recreation									NEI			
Public & Private Water Supply				NS		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish & Wildlife Propagation not supporting for Selenium
Public & Private Water Supply not supporting for Selenium

Elm Fork of the Red River at Granite

Sample Record	Times Visited	Station ID
June 2004 - Current	140	311800000010-002AT

Stream Data

County	Bryan	Request Data By Email
Location	South of the city of Granite on State Highway 6	
Latitude/Longitude	34.92637482, -99.50197667	
Planning Watershed	Southwest (8-digit HUC - 11120304)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	130	18.0	18.7	-0.1/35.3	10.0/25.6	
	Turbidity (NTU)	134	83	11	2/>1000	5/26	
	pH (units)	130	7.92	7.91	7.20/8.91	7.78/8.02	
	Dissolved Oxygen (mg/L)	130	9.20	9.45	2.24/15.84	7.65/10.69	
	Hardness (mg/L)	133	2318	2310	240/7140	1875/2695	
Minerals	Total Dissolved Solids (mg/L)	137	14579	13000	890/40500	8430/18200	
	Specific Conductivity (uS/cm)	130	22956	20790	1413/60705	14141/29175	
	Chloride (mg/L)	139	7471	6460	192/25700	3340/9900	32% of values>OWQS
	Sulfate (mg/L)	139	1402	1450	126/2520	1210/1600	
Nutrients	Total Phosphorus (mg/L)	93	0.074	0.025	<0.010/1.700	0.020/0.050	
	Total Nitrogen (mg/L)	96	1.19	1.02	0.48/5.42	0.76/1.28	
	Nitrate/Nitrite (mg/L)	96	0.27	0.05	<0.05/2.60	<0.05/0.32	
	Chlorophyll A (mg/m^3)	68	11.2	6.5	<0.5/73.9	3.0/12.2	TSI=54.3
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	18	1072	387	<10/2420	68.5/2420	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	18	2710	2101	278/15531	922/2491	Mean>OWQS

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	NS						NS	NS	S
Aesthetics												S
Agriculture					S		NS	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NS		S			S			
Fish Consumption				NS								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish Consumption not supporting for Lead
Fish & Wildlife Propagation not supporting for Selenium
Public & Private Water Supply not supporting for Selenium

Flint Creek at Flint

Sample Record	Times Visited	Station ID
November 1998 - Current	192	121700060010-001AT

Stream Data

County	Delaware	Request Data By Email
Location	North of the Town of Flint on county road	
Latitude/Longitude	36.1867733, -94.70680493	
Planning Watershed	Lower Arkansas (8-digit HUC - 11110103)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	138	16.9	16.5	2.5/28.7	11.0/22.9	
	Turbidity (NTU)	138	3	1	1/58	1/2	
	pH (units)	137	7.67	7.68	6.44/8.79	7.44/7.89	
	Dissolved Oxygen (mg/L)	138	9.44	9.20	4.97/14.94	7.97/10.74	
	Hardness (mg/L)	141	115	114	<10/218	105/125	
Minerals	Total Dissolved Solids (mg/L)	24	183	162	112/552	152/186	
	Specific Conductivity (uS/cm)	136	295	297	152/452	262/333	
	Chloride (mg/L)	103	15	14	<10/43	10/18	
	Sulfate (mg/L)	103	17	15	<10/69	12/20	
Nutrients	Total Phosphorus (mg/L)	151	0.183	0.156	0.060/1.450	0.100/0.190	See Notes
	Total Nitrogen (mg/L)	145	2.96	2.84	0.97/7.95	2.18/3.60	
	Nitrate/Nitrite (mg/L)	147	2.75	2.57	0.80/7.55	2.07/3.32	
	Chlorophyll A (mg/m^3)	86	1.0	0.8	<0.1/4.2	0.5/1.2	TSI=30.4
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	74	523	41	<10/18000	<10/109	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	74	207	31	<10/4611	<10/74	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment	Total Phosphorus
Fish & Wildlife Propagation	S	S	S	S						S	S	S	
Aesthetics												S	NS
Agriculture					S		S	S					
Primary Body Contact Recreation									NS				
Public & Private Water Supply				S					S				
Fish Consumption				S									

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

100%(79 of 79) of rolling Geo. Mean exceed OWQS criterion of 0.037 ppm

Fourche-Maline Creek at Red Oak

Sample Record	Times Visited	Station ID
November 1998 - Current	173	220100040020-001AT

Stream Data

County	Latimer	Request Data By Email
Location	S.E. of the Town of Red Oak off US Highway 270	
Latitude/Longitude	34.91232472, -95.15608416	
Planning Watershed	Lower Arkansas (8-digit HUC - 11110105)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	154	17.6	18.9	1.0/31.6	10.2/23.9	
	Turbidity (NTU)	159	37	28	5/390	18/43	
	pH (units)	156	7.16	7.04	5.77/8.76	6.84/7.47	
	Dissolved Oxygen (mg/L)	155	6.10	6.16	0.84/15.69	3.28/8.48	55% of values<OWQS and 42% of values<alt OWQS
	Hardness (mg/L)	156	53	48	<10/212	33/64	
Minerals	Total Dissolved Solids (mg/L)	40	102	99	50/175	78/125	
	Specific Conductivity (uS/cm)	153	166	138	11/1106	101/203	
	Chloride (mg/L)	105	<10	10	<10/22	<10/10	
	Sulfate (mg/L)	106	22	21	<10/49	16/25	
Nutrients	Total Phosphorus (mg/L)	158	0.082	0.068	<0.010/0.870	0.050/0.090	
	Total Nitrogen (mg/L)	156	0.79	0.76	0.16/1.70	0.56/0.97	
	Nitrate/Nitrite (mg/L)	158	0.15	0.12	<0.05/0.97	<0.05/0.21	
	Chlorophyll A (mg/m^3)	40	8.3	3.2	0.8/34.0	2.0/13.4	TSI=51.4
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	42	417	76	<10/8000	51/214	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	42	231	69	<10/1986	30/219	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	NS	NS						S	NS	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish & Wildlife Propagation not supporting for Lead

Glover River at Glover

Sample Record	Times Visited	Station ID
November 1998 - Current	189	410210080010-001AT

Stream Data

County	McCurtain	Request Data By Email
Location	West of the Town of Broken Bow on State Highway 3	
Latitude/Longitude	34.09774144, -94.90248786	
Planning Watershed	Southeast (8-digit HUC - 11140107)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	161	19.9	20.0	1.8/35.1	12.0/27.2	
	Turbidity (NTU)	165	11	6	1/89	4/11	
	pH (units)	162	7.30	7.21	5.07/9.26	7.01/7.50	
	Dissolved Oxygen (mg/L)	162	8.56	8.64	2.52/14.41	7.04/9.99	
	Hardness (mg/L)	163	25	16	<10/231	12/28	
Minerals	Total Dissolved Solids (mg/L)	28	45	42	25/95	34/55	
	Specific Conductivity (uS/cm)	161	57	49	<10/437	37/72	
	Chloride (mg/L)	91	<10	10	<10/18	<10/10	
	Sulfate (mg/L)	91	<10	10	<10/34	<10/10	
Nutrients	Total Phosphorus (mg/L)	158	0.028	0.018	<0.010/0.500	<0.010/0.030	
	Total Nitrogen (mg/L)	156	0.46	0.40	0.05/1.92	0.28/0.56	
	Nitrate/Nitrite (mg/L)	156	0.15	0.05	<0.05/1.42	<0.05/0.17	
	Chlorophyll A (mg/m^3)	92	2.3	2.0	<0.1/8.7	0.9/3.2	TSI=38.9
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	55	53	20	<10/400	<10/63	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	55	37	18	<10/354	<10/30	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	NS						S	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									S			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish & Wildlife Propagation not supporting for Silver and Lead

Honey Creek at Grove

Sample Record	Times Visited	Station ID
December 1998-June 2006	108	121600030290-001AT

Stream Data

County	Delaware	Request Data By Email
Location	Southeast of the City of Grove on County Road N4670	
Latitude/Longitude	36.54773713, -94.12072263	
Planning Watershed	Grand (8-digit HUC - 11070206)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	89	16.6	16.7	6/27	11.3/21.4	
In-Situ	Turbidity (NTU)	89	3	2	1/24	1/4	
In-Situ	pH (units)	89	7.70	7.65	6.29/9.04	7.5/7.89	
In-Situ	Dissolved Oxygen (mg/L)	88	8.72	8.35	4.38/16.51	7.37/10.03	
In-Situ	Hardness (mg/L)	89	150	150	18/260	128/170	
Minerals	Total Dissolved Solids (mg/L)	18	228	230	102/367	179/265	
Minerals	Specific Conductivity (uS/cm)	89	495	451	182/929	370/626	
Minerals	Chloride (mg/L)	86	58	45	<10/148	27/92	
Minerals	Sulfate (mg/L)	86	35	28	<10/112	17/50	
Nutrients	Total Phosphorus (mg/L)	93	0.088	0.074	0.025/0.403	0.050/0.099	
Nutrients	Total Nitrogen (mg/L)	87	2.87	2.73	0.19/9.00	2.05/3.18	
Nutrients	Nitrate/Nitrite (mg/L)	88	2.55	2.31	<0.05/8.71	1.69/2.91	
Nutrients	Chlorophyll A (mg/m^3)	28	2.3	0.7	<0.5/17.9	<0.5/1.2	TSI=38.9
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	28	2107	200	41/35000	90/700	Mean>OWQS
Bacteria	E. Coli (cfu/100ml)(*-Geo. Mn.)	28	211	103	<10/2046	47/211	Mean>OWQS

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						S	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Illinois River at Tahlequah

Sample Record	Times Visited	Station ID
November 1998 - Current	186	121700030010-001AT

Stream Data

County	Cherokee	Request Data By Email
Location	East of the Town of Tahlequah on US Highway 62	
Latitude/Longitude	35.92606447, -94.92380373	
Planning Watershed	Lower Arkansas (8-digit HUC - 11110103)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	139	17.4	17.2	0.8/31.7	10.8/24	
	Turbidity (NTU)	138	8	4	1/84	3/6	
	pH (units)	137	7.87	7.83	6.47/9.29	7.57/8.13	
	Dissolved Oxygen (mg/L)	139	9.98	10.02	4.66/15.88	7.65/12.06	
	Hardness (mg/L)	139	115	113	69/161	106/123	
Minerals	Total Dissolved Solids (mg/L)	24	171	156	104/565	133/170	
	Specific Conductivity (uS/cm)	139	269	273	66/713	238/294	
	Chloride (mg/L)	103	11	<10	<10/24	<10/14	
	Sulfate (mg/L)	103	14	13	<10/48	11/15	
Nutrients	Total Phosphorus (mg/L)	148	0.079	0.066	<0.010/0.440	0.040/0.110	See Notes
	Total Nitrogen (mg/L)	147	1.77	1.70	0.4/3.76	1.17/2.27	
	Nitrate/Nitrite (mg/L)	148	1.53	1.53	0.23/3.61	0.96/1.97	
	Chlorophyll A (mg/m^3)	86	3.7	1.9	<0.5/46.4	1.2/3.1	TSI=43.4
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	73	142	20	<10/2500	<10/100	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	73	61	<10	<10/884	<10/36	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dssolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment	Total Posphorus
Fish & Wildlife Propagation	S	S	S	S						S	S	S	
Aesthetics												S	NS
Agriculture					S		S	S					
Primary Body Contact Recreation									S				
Public & Private Water Supply				S		S			NS				
Fish Consumption				S									

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

79%(64 of 81) of 3-month rolling Geo. Mean above OWQS criterion of 0.037 ppm

Illinois River at Watts

Sample Record	Times Visited	Station ID
November 1998 - Current	191	121700030350-001AT

Stream Data

County	Adair	Request Data By Email
Location	North of the Town of Watts on US Highway 59	
Latitude/Longitude	36.12994064, -94.57151225	
Planning Watershed	Lower Arkansas (8-digit HUC - 11110103)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	141	17.0	16.1	2/31.5	10.3/24	
	Turbidity (NTU)	139	11	6	1/95	4/13	
	pH (units)	140	7.90	7.92	6.51/9.03	7.73/8.12	
	Dissolved Oxygen (mg/L)	141	10.60	10.31	4.51/18.88	8.63/11.97	
	Hardness (mg/L)	142	127	127	10/215	115/138	
Minerals	Total Dissolved Solids (mg/L)	24	190	173	116/566	147/206	
	Specific Conductivity (uS/cm)	141	309	315	149/713	275/341	
	Chloride (mg/L)	102	14	13	<10/28	10/17	
	Sulfate (mg/L)	102	16	14	<10/97	12/18	
Nutrients	Total Phosphorus (mg/L)	147	0.143	0.101	0.01/1.15	0.05/0.19	See Notes
	Total Nitrogen (mg/L)	146	2.52	2.45	0.86/5.06	2.04/2.9	
	Nitrate/Nitrite (mg/L)	147	2.19	2.16	0.65/4.64	1.7/2.55	
	Chlorophyll A (mg/m^3)	86	3.1	2.1	0.1/15.3	1.4/3.3	TSI=41.6
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	74	526	20	<10/15531	10/99	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	74	358	19	<10/12997	10/63	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment	Total Posphorus
Fish & Wildlife Propagation	S	S	S	S						S	S	S	
Aesthetics												S	NS
Agriculture					S		S	S					
Primary Body Contact Recreation									S				
Public & Private Water Supply				S		S			S				
Fish Consumption				S									

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

91%(73 of 80) of rolling Geo. Mean exceed OWQS criterion of 0.037 ppm

Island Bayou at Albany

Sample Record	Times Visited	Station ID
November 1998 - Current	39	410700000040-001AT

Stream Data

County	Bryan	Request Data by Email
Location	South of the Town of Albany off State Highway 70E	
Latitude/Longitude	33.853576, -96.16512	
Planning Watershed	Blue-Boggy (8-digit HUC - 11140101)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	37	16.8	17.2	2.9/28.1	10.4/23.2	
	Turbidity (NTU)	37	86	15	6/798	10/51	
	pH (units)	37	7.70	7.76	7.12/8.20	7.51/7.86	
	Dissolved Oxygen (mg/L)	37	8.72	7.85	5.11/15.22	6.35/10.97	
	Hardness (mg/L)	37	196	205	59/350	151/251	
Minerals	Total Dissolved Solids (mg/L)	39	372	385	130/674	275/469	
	Specific Conductivity (uS/cm)	37	654	707	124/1094	527/897	
	Chloride (mg/L)	39	66	66	<10/134	24/106	
	Sulfate (mg/L)	39	80	75	44/126	68/93	
Nutrients	Total Phosphorus (mg/L)	39	0.384	0.286	<0.010/1.2	0.180/0.630	
	Total Nitrogen (mg/L)	39	1.51	1.04	0.54/3.97	0.94/1.82	
	Nitrate/Nitrite (mg/L)	39	0.36	0.19	<0.05/1.69	<0.05/0.48	
	Chlorophyll A (mg/m^3)	39	3.5	3.1	<0.5/12.5	1.6/4.9	TSI=42.8
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	17	649	488	56/2420	132/818	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	17	711	308	15/2420	218/740	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						S	S	S
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									NEI			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Kiamichi River at Antlers

Sample Record	Times Visited	Station ID
November 1998 - Current	182	410300030010-001AT

Stream Data

County	Pushmataha	Request Data by Email
Location	North of the Town of Antlers on US Highway 271	
Latitude/Longitude	34.24876734, -95.60509256	
Planning Watershed	Southeast (8-digit HUC - 11140105)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	162	18.7	17.9	4.4/34.0	11.4/25.4	
	Turbidity (NTU)	165	27	18	2/173	12/29	
	pH (units)	161	7.38	7.39	5.04/9.31	6.98/7.79	
	Dissolved Oxygen (mg/L)	161	8.46	7.93	2.47/20.26	7.13/9.76	
	Hardness (mg/L)	164	26	19	<10/324	14/28	
Minerals	Total Dissolved Solids (mg/L)	41	52	53	30/77	45/59	
	Specific Conductivity (uS/cm)	162	55	53	<10/390	38/72	
	Chloride (mg/L)	111	<10	<10	<10/<10	<10/<10	
	Sulfate (mg/L)	111	13	11	<10/33	<10/14	
Nutrients	Total Phosphorus (mg/L)	167	0.044	0.034	<0.010/0.330	0.020/0.050	
	Total Nitrogen (mg/L)	164	0.59	0.54	<0.05/1.85	0.39/0.73	
	Nitrate/Nitrite (mg/L)	165	0.11	<0.05	<0.05/1.49	<0.05/0.14	
	Chlorophyll A (mg/m^3)	90	11.2	3.6	<0.5/520	2.09/6.49	TSI=54.3
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	44	331	56	<10/6000	<10/228.2	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	44	244	28	<10/4106	<10/99	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	NS						S	NEI	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			
Fish Consumption				NS								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish Consumption not supporting for lead
Fish & Wildlife Propagation not supporting for Silver and Lead

Kiamichi River at Big Cedar

Sample Record	Times Visited	Station ID
November 1998 - Current	175	410310020010-001AT

Stream Data

County	LeFlore	Request Data by Email
Location	East of the Town of Big Cedar on State Highway 63	
Latitude/Longitude	34.63884253, -94.61226313	
Planning Watershed	Southeast (8-digit HUC - 11140105)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	156	17.1	17.7	4.2/33.5	10.8/22.4	
	Turbidity (NTU)	160	7	6	1/64	5/8	
	pH (units)	158	7.04	6.87	5.71/9.02	6.63/7.40	16% of values<OWQS
	Dissolved Oxygen (mg/L)	158	8.49	8.53	3.02/15.05	6.92/10.07	
	Hardness (mg/L)	158	15	<10	<10/134	<10/13	
Minerals	Total Dissolved Solids (mg/L)	25	33	26	11/109	23/38	
	Specific Conductivity (uS/cm)	154	22	22	<10/163	14/27	
	Chloride (mg/L)	87	<10	<10	<10/<10	<10/<10	
	Sulfate (mg/L)	87	<10	<10	<10/23	</<10	
Nutrients	Total Phosphorus (mg/L)	158	0.014	0.011	<0.010/0.08	<0.010/0.020	
	Total Nitrogen (mg/L)	151	0.27	0.22	<0.05/1.13	0.15/0.36	
	Nitrate/Nitrite (mg/L)	152	0.06	<0.05	<0.05/0.70	<0.05/<0.05	
	Chlorophyll A (mg/m^3)	55	1.0	<0.5	<0.5/7.0	0.2/0.9	TSI=30.3
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	48	663	25	<10/24000	<10/68	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	48	86	12	<10/1317	<10/44	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	NS	S	NS						S	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									S			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes: *Fish & Wildlife Propagation not supporting for Lead, Silver, and Zinc*

Kiamichi River at Fort Towson

Sample Record	Times Visited	Station ID
February 2002 - 2012	105	410300010010-002AT

Stream Data

County	Bryan	Request Data by Email
Location	South of the Town of Fort Towson on State Highway 109	
Latitude/Longitude	33.96940193, -95.27829905	
Planning Watershed	Southeast (8-digit HUC - 11140150)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	85	18.9	19.1	5.5/30.9	11.8/26.3	
	Turbidity (NTU)	86	43	35	8/260	24/50	
	pH (units)	85	7.59	7.63	6.43/8.60	7.21/7.91	
	Dissolved Oxygen (mg/L)	85	8.83	8.56	4.13/15.07	6.79/10.5	
	Hardness (mg/L)	85	41	31	12/235	24/44	
Minerals	Total Dissolved Solids (mg/L)	16	68	66	45/93	58/77	
	Specific Conductivity (uS/cm)	85	76	74	<10/299	51/94	
	Chloride (mg/L)	70	11	<10	<10/69	<10/<10	
	Sulfate (mg/L)	70	18	17	<10/56	13/22	
Nutrients	Total Phosphorus (mg/L)	86	0.069	0.061	0.022/0.259	0.043/0.081	
	Total Nitrogen (mg/L)	85	0.64	0.57	0.13/1.47	0.47/0.74	
	Nitrate/Nitrite (mg/L)	85	0.11	<0.05	<0.05/1.02	<0.05/0.15	
	Chlorophyll A (mg/m^3)	33	9.7	7.2	1/34.3	3.1/12.7	TSI=52.9
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	24	419	<10	<10/6700	<10/65	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	24	60	31	<10/528	<10/71	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	NS						S	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									S			
Public & Private Water Supply				NS		S			S			
Fish Consumption				NS								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish Consumption not supporting for Lead
Fish & Wildlife Propagation not supporting for Lead
Public & Private Water Supply not supporting for Lead

Sampling and Assessment by the **Oklahoma Water Resources Board** – 3800 Classen Blvd, Oklahoma City, OK, 73118 – 405.530.8800 – http://www.owrb.ok.gov

Kiamichi River at Tuskahoma

Sample Record	Times Visited	Station ID
December 1998 - Current	136	410310010010-001AT

Stream Data

County	Pushmataha	Request Data by Email
Location	South of the Town of Tuskahoma off US Highway 271	
Latitude/Longitude	34.61236033, -95.27727429	
Planning Watershed	Southeast (8-digit HUC - 11140105)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	115	19.3	19.0	3.4/34	12.6/26.7	
	Turbidity (NTU)	118	21	13	1/159	10/24	
	pH (units)	116	7.24	7.21	5.47/8.72	6.91/7.64	
	Dissolved Oxygen (mg/L)	116	8.43	8.38	3.08/17.75	6.99/9.61	
	Hardness (mg/L)	116	20	15	<10/144	11/22	
Minerals	Total Dissolved Solids (mg/L)	19	43	41	30/65	38/45	
	Specific Conductivity (uS/cm)	115	42	41	0/200	19/54	
	Chloride (mg/L)	83	7	7	<5/10	<5/10	
	Sulfate (mg/L)	82	12	10	<5/41	8/13	
Nutrients	Total Phosphorus (mg/L)	126	0.041	0.032	<0.005/0.506	0.023/0.047	
	Total Nitrogen (mg/L)	115	0.47	0.40	<0.05/1.72	0.28/0.56	
	Nitrate/Nitrite (mg/L)	116	0.10	<0.05	<0.05/0.86	<0.05/0.07	
	Chlorophyll A (mg/m^3)	30	6.5	2.5	0.3/32.4	1.2/5.7	TSI=49.0
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	26	1539	46	<10/35000	<10/88	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	26	319	41	<10/4611	18/92	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	NS						S	NEI	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									S			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes *Fish & Wildlife Propagation not supporting for Lead and Silver*

Sampling and Assessment by the **Oklahoma Water Resources Board** – 3800 Classen Blvd, Oklahoma City, OK, 73118 – 405.530.8800 – http://www.owrb.ok.gov

Lee Creek at Short

Sample Record	Times Visited	Station ID
January 2003 - Present	183	220200050010-001AT

Stream Data

County	Sequoyah	Request Data by Email
Location	West of the Town of Short on State Highway 101	
Latitude/Longitude	35.56589868, -94.53152717	
Planning Watershed	Lower Arkansas (8-digit HUC - 11110104)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	167	17.4	16.4	0.2/32.5	9.8/25	
	Turbidity (NTU)	166	9	5	1/124	4/8	
	pH (units)	167	7.60	7.60	6.31/8.7	7.35/7.84	
	Dissolved Oxygen (mg/L)	167	9.40	9.07	5.23/13.94	7.63/11.18	
	Hardness (mg/L)	164	47	45	10/130	36/56	
Minerals	Total Dissolved Solids (mg/L)	11	52	50	40/66	44/58	
	Specific Conductivity (uS/cm)	166	99	98	<10/266	77/113	
	Chloride (mg/L)	78	10	10	<10/10	10/10	
	Sulfate (mg/L)	78	11	10	<10/49	10/10	
Nutrients	Total Phosphorus (mg/L)	166	0.013	0.010	0.01/0.15	0.01/0.02	
	Total Nitrogen (mg/L)	166	0.31	0.23	<0.1/1.72	0.16/0.35	
	Nitrate/Nitrite (mg/L)	166	0.14	0.06	<0.05/1.62	0.05/0.15	
	Chlorophyll A (mg/m^3)	135	2.2	0.8	0.1/92	0.4/1.7	TSI=39.3
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	61	413	10	<10/7100	10/41	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	61	127	10	<10/2359	10/33	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment	Total Phosphorus
Fish & Wildlife Propagation	S	S	S	S						S	S	S	
Aesthetics												NEI	NEI
Agriculture					S		S	S					
Primary Body Contact Recreation									S				
Public & Private Water Supply				S									
Fish Consumption				S									

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Little River at Cloudy

Sample Record	Times Visited	Station ID
November 1998 - Current	160	410210020140-001AT

Stream Data

County	Pushmataha	Request Data by Email
Location	East of the Town of Cloudy on Cloudy Road	
Latitude/Longitude	34.32564049, -95.19911409	
Planning Watershed	southeast (8-digit HUC - 11140107)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	138	19.5	20.0	2/36.3	12/26.9	
	Turbidity (NTU)	137	12	9	1/91	5/15	26% of values>OWQS
	pH (units)	137	7.18	7.13	5.16/8.63	6.86/7.45	12% of values<OWQS
	Dissolved Oxygen (mg/L)	137	8.96	8.91	2.81/14.13	7.63/10.35	
	Hardness (mg/L)	139	16	10	10/200	10/13	
Minerals	Total Dissolved Solids (mg/L)	50	44	43	20/94	33/49	
	Specific Conductivity (uS/cm)	138	32	35	<10/130	18/42	
	Chloride (mg/L)	109	8	10	<10/17	<10/10	
	Sulfate (mg/L)	109	10	10	<10/46	<10/11	
Nutrients	Total Phosphorus (mg/L)	138	0.029	0.019	0.01/1.04	0.01/0.03	
	Total Nitrogen (mg/L)	132	0.39	0.35	<0.1/1.45	0.24/0.5	
	Nitrate/Nitrite (mg/L)	132	0.10	0.05	<0.05/0.84	0.05/0.11	
	Chlorophyll A (mg/m^3)	58	2.5	1.0	0.1/45.4	0.7/1.7	TSI=39.6
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	40	235	56	<10/2800	10/158	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	40	107	17	<10/1012	10/103	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	NS	S	NS						S	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									S			
Public & Private Water Supply				S		S			S			
Fish Consumption				NS								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish Consumption not supporting for Lead
Fish & Wildlife Propagation not supporting for Copper, Lead, Zinc, and Silver

Little River at Holly Creek

Sample Record	Times Visited	Station ID
November 2003 - Current	122	410200010200-002AT

Stream Data

County	McCurtain	Request Data by Email
Location	North of the Town of Idabel on County Road 4615	
Latitude/Longitude	33.93595796, -94.82864529	
Planning Watershed	Southeast (8-digit HUC - 11140107)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	107	19.0	20.2	4.19/32.3	11.8/25.8	
	Turbidity (NTU)	112	17	15	0/65	10/21	50% of values>OWQS
	pH (units)	109	7.21	7.14	6.15/8.37	6.85/7.53	
	Dissolved Oxygen (mg/L)	108	9.20	7.68	3.72/78.80	5.96/9.98	
	Hardness (mg/L)	109	35	25	<10/251	17/41.5	
Minerals	Total Dissolved Solids (mg/L)	22	57	53	30/104	44/71	
	Specific Conductivity (uS/cm)	107	89	74	<10/257	50/124	
	Chloride (mg/L)	58	12	<10	<10/31	<10/12	
	Sulfate (mg/L)	57	12	<11	<10/22	<10/13	
Nutrients	Total Phosphorus (mg/L)	109	0.038	0.033	<0.010/0.140	0.020/0.050	
	Total Nitrogen (mg/L)	108	0.60	0.53	<0.05/1.40	0.41/0.74	
	Nitrate/Nitrite (mg/L)	108	0.14	0.09	<0.05/0.82	<0.05/0.18	
	Chlorophyll A (mg/m^3)	71	7.4	5.8	<0.5/48.2	2.6/9.4	TSI=50.3
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	46	86	15	<10/2200	<10/31	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	46	68	22	<10/1296	<10/45.68	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	U	NS						S	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									S			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish & Wildlife Propagation not supporting for Lead and Silver
U = Assessment yielded undetermined supporting status

Little Lee Creek at Nicut

Sample Record	Times Visited	Station ID
February 2008 - Current	123	220200050040-001AT

Stream Data

County	Sequoyah	Request Data by Email
Location	West of the Town of Short on State Highway 101	
Latitude/Longitude	35.58, -94.56	
Planning Watershed	Lower Arkansas (8-digit HUC - 11110104)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	121	17.2	16.6	0.3/31.4	9.8/24.7	
	Turbidity (NTU)	123	8	4	1/223	2/5	
	pH (units)	123	7.58	7.57	6.3/8.52	7.36/7.83	
	Dissolved Oxygen (mg/L)	123	9.79	9.59	5.01/14.47	8.17/11.81	
	Hardness (mg/L)	119	65	63	36/140	53/72	
Minerals	Total Dissolved Solids (mg/L)	21	73	76	50/94	65/85	
	Specific Conductivity (uS/cm)	120	141	136	74/314	117/153	
	Chloride (mg/L)	43	9	<10	<10/<10	<10/<10	
	Sulfate (mg/L)	43	<10	<10	<10/15	<10/<10	
Nutrients	Total Phosphorus (mg/L)	120	0.013	<0.010	<0.010/0.26	<0.010/<0.010	
	Total Nitrogen (mg/L)	119	0.26	0.19	0.08/1.41	0.15/0.25	
	Nitrate/Nitrite (mg/L)	119	0.11	<0.05	<0.05/0.96	<0.05/0.10	
	Chlorophyll A (mg/m^3)	98	0.8	<0.5	<0.5/6.44	0.36/0.89	TSI=28.2
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	23	241	<10	<10/2419.6	<10/16	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	23	359	<10	<10/6488	<10/13.4	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment	Phosphorus
Fish & Wildlife Propagation	S	S	S	S						S	S	S	
Aesthetics												NEI	NEI
Agriculture					S		S	S					
Primary Body Contact Recreation									S				
Public & Private Water Supply				S		S			S				
Fish Consumption				S									

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Little River at Sasakwa

Sample Record	Times Visited	Station ID
November 1998 - Current	168	520800010010-001AT

Stream Data

County	Seminole	Request Data by Email
Location	North of the Town of Sasakwa on State Highway 56	
Latitude/Longitude	34.96534987, -96.5120113	
Planning Watershed	Central (8-digit HUC - 11090204)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	159	17.8	19.0	0.3/32.3	10.8/25.9	
	Turbidity (NTU)	156	149	44	2/>1000	17/142	20% of values>OWQS
	pH (units)	158	8.07	8.10	6.84/8.67	7.94/8.26	
	Dissolved Oxygen (mg/L)	159	9.11	8.61	3.88/17.75	7.58/10.31	
	Hardness (mg/L)	159	312	302	72/980	227/381	
Minerals	Total Dissolved Solids (mg/L)	92	651	680	200/2290	437/799	
	Specific Conductivity (uS/cm)	159	1178	1183	204/4335	712/1570	
	Chloride (mg/L)	156	244	233	29/1360	137/310	
	Sulfate (mg/L)	155	43	38	<10/261	30/46	
Nutrients	Total Phosphorus (mg/L)	158	0.122	0.056	<0.010/2.050	0.030/0.110	
	Total Nitrogen (mg/L)	157	0.83	0.62	<0.05/6.06	0.44/0.94	
	Nitrate/Nitrite (mg/L)	158	0.11	<0.05	<0.05/1.07	<0.05/0.11	
	Chlorophyll A (mg/m^3)	55	5.7	3.5	<0.5/90.3	1.5/6.8	TSI=47.7
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	48	2614	106	10/93000	33/571	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	48	389	54	3/5794	12/139	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	S						S	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Little River at Tecumseh

Sample Record	Times Visited	Station ID
January 2013- Current	41	520800020010-001AT

Stream Data

County	Potawatomie	Request Data by Email
Location	South of the Town of Tecumseh on US 177	
Latitude/Longitude	35.1725, -96.931667	
Planning Watershed	Central (8-digit HUC - 11090203)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	39	15.2	15.3	0.5/33.8	8.2/21.1	
	Turbidity (NTU)	39	31	10	3/254	5/21	
	pH (units)	39	8.13	8.19	7.54/8.53	7.99/8.3	
	Dissolved Oxygen (mg/L)	39	10.11	9.30	7.46/15.28	8.4/11.39	
	Hardness (mg/L)	39	276	275	141/404	236/310	
Minerals	Total Dissolved Solids (mg/L)	39	496	513	180/661	410/571	
	Specific Conductivity (uS/cm)	39	965	1049	326/1413	906/1115	
	Chloride (mg/L)	41	139	146	16/240	94/170	
	Sulfate (mg/L)	41	52	52	26.3/72	44/60	
Nutrients	Total Phosphorus (mg/L)	41	0.041	0.017	<0.010/0.250	<0.010/0.070	
	Total Nitrogen (mg/L)	41	0.66	0.49	0.26/1.64	0.43/0.68	
	Nitrate/Nitrite (mg/L)	41	0.07	<0.05	<0.05/0.23	<0.05/<0.05	
	Chlorophyll A (mg/m^3)	41	2.8	1.5	0.38/10.3	0.87/3.55	TSI=40.8
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	15	1212	1046	179/2420	291/2420	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	15	524	110	19.5/2420	30.9/770	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NEI	NEI	NEI	NEI						NEI	NEI	NEI
Aesthetics												NEI
Agriculture					NEI		NEI	NEI				
Primary Body Contact Recreation									NEI			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				NEI								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Mountain Fork River at Eagletown

Sample Record	Times Visited	Station ID
November 1998 - Current	175	410210040010-001AT

Stream Data

County	McCurtain	Request Data by Email
Location	East of the Town of Broken Bow on US Highway 70	
Latitude/Longitude	34.04168908, -94.62071144	
Planning Watershed	Southeast (8-digit HUC - 11140108)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	155	16.8	17.0	2.6/29.5	12.2/21.4	
	Turbidity (NTU)	161	4	3	1/29	2/5	
	pH (units)	155	7.26	7.19	4.68/9.3	6.88/7.57	
	Dissolved Oxygen (mg/L)	156	9.25	9.19	4.99/12.85	8.11/10.38	
	Hardness (mg/L)	157	14	<10	<10/93	<10/14	
Minerals	Total Dissolved Solids (mg/L)	43	30	30	<10/84	23/34	
	Specific Conductivity (uS/cm)	154	29	32	<10/181	12/36	
	Chloride (mg/L)	110	8	<10	<10/27	<10/<10	
	Sulfate (mg/L)	110	8	<10	<10/15	<10/<10	
Nutrients	Total Phosphorus (mg/L)	160	0.018	0.011	<0.010/0.810	<0.010/0.020	
	Total Nitrogen (mg/L)	160	0.44	0.39	<0.05/6.22	0.29/0.47	
	Nitrate/Nitrite (mg/L)	160	0.15	0.14	<0.05/0.5	0.1/0.18	
	Chlorophyll A (mg/m^3)	74	1.4	1.2	<0.5/2.9	1.0/1.8	TSI=33.8
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	53	259	18	<10/4000	<10/120	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	53	70	20	<10/1956	<10/31	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	NS						S	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									S			
Public & Private Water Supply				S								
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes: *Fish & Wildlife Propagation not supporting for Lead and Silver*

Mountain Fork River at Smithville

Sample Record	Times Visited	Station ID
November 1998 - Current	236	410210060010-001AT

Stream Data

County	McCurtain	Request Data by Email
Location	East of the Town of Smithville on State Highway 4	
Latitude/Longitude	34.4616061, -94.63230583	
Planning Watershed	Southeast (8-digit HUC - 11140108)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	210	18.2	18.8	0.45/33.5	10.4/25.9	
	Turbidity (NTU)	215	15	8	1/347	5/13	28% of values>OWQS
	pH (units)	212	7.20	7.09	4.73/9.04	6.83/7.57	
	Dissolved Oxygen (mg/L)	211	9.02	8.73	3.66/19.00	7.36/10.53	
	Hardness (mg/L)	211	16	<10	<10/135	<10/15	
Minerals	Total Dissolved Solids (mg/L)	28	36	38	14/59	27/42	
	Specific Conductivity (uS/cm)	210	35	37	<10/180	28/43	
	Chloride (mg/L)	93	<10	<10	<10/28	<10/<10	
	Sulfate (mg/L)	92	<10	<10	<10/28	<10/<10	
Nutrients	Total Phosphorus (mg/L)	211	0.027	0.019	<0.010/0.280	<0.010/0.030	
	Total Nitrogen (mg/L)	205	0.49	0.44	<0.05/2.11	0.3/0.58	
	Nitrate/Nitrite (mg/L)	206	0.13	<0.05	<0.05/1.46	<0.05/0.19	
	Chlorophyll A (mg/m^3)	138	2.6	1.8	<0.5/15.8	0.8/3.4	TSI=40.3
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	65	1112	10	<10/57000	<10/93	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	65	125	10	<10/2420	<10/69	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment	Total Phosphorus
Fish & Wildlife Propagation	NS	S	S	NS						S	S	S	
Aesthetics												S	NEI
Agriculture					S		S	S					
Primary Body Contact Recreation									S				
Public & Private Water Supply				S		S			S				
Fish Consumption				S									

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes *Fish & Wildlife Propagation not supporting for Zinc, Silver, and Lead*

Mud Creek at Courtney

Sample Record	Times Visited	Station ID
November 1998 - Current	163	311100040010-001AT

Stream Data

County	Love	Request Data By Email
Location	Near the Town of Courtney on State Highway 32	
Latitude/Longitude	34.004167, -97.566667	
Planning Watershed	Lower Washita (8-digit HUC - 11130201)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	158	18.9	19.1	3.4/32.6	12.6/26.5	
	Turbidity (NTU)	159	230	109	15/>1000	50/311	83% of values>OWQS
	pH (units)	157	7.86	7.90	7.14/8.81	7.65/8.07	
	Dissolved Oxygen (mg/L)	158	6.70	6.65	1.42/17.43	5.04/8.21	31% of values<OWQS and 22% of values<alt OWQS
	Hardness (mg/L)	157	238	216	30/670	131/298	
Minerals	Total Dissolved Solids (mg/L)	92	475	388	93/1310	288/570	
	Specific Conductivity (uS/cm)	157	740	639	90/2292	340/893	
	Chloride (mg/L)	156	97	63	<10/568	25/128	
	Sulfate (mg/L)	155	79	70	20/247	43/109	
Nutrients	Total Phosphorus (mg/L)	157	0.246	0.176	0.020/1.610	0.110/0.330	
	Total Nitrogen (mg/L)	156	1.43	1.25	0.3/3.85	0.83/1.85	
	Nitrate/Nitrite (mg/L)	157	0.20	0.12	<0.05/0.97	<0.05/0.33	
	Chlorophyll A (mg/m^3)	38	28.0	11.6	1.5/164	4.9/32.5	TSI=63.3
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	38	826	330	<10/17000	48/613	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	38	209	65	<10/1986	28/299	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	NS	NS						S	NEI	S
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				NS								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish & Wildlife Propagation not supporting for Lead
Fish Consumption not supporting for Lead

Sampling and Assessment by the **Oklahoma Water Resources Board** – 3800 Classen Blvd, Oklahoma City, OK, 73118 – 405.530.8800 – http://www.owrb.ok.gov

Muddy Boggy Creek at Atoka

Sample Record	Times Visited	Station ID
November 1998 - Current	177	410400050270-001AT

Stream Data

County	Atoka	Request Data By Email
Location	North of the Town of Atoka on US 69	
Latitude/Longitude	34.39420542, -96.12436418	
Planning Watershed	Blue-Boggy (8-digit HUC -11140103)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	156	17.4	17.6	1.7/31.3	10.3/25	
	Turbidity (NTU)	156	142	74	5/>1000	38/156	42% of values>OWQS
	pH (units)	156	7.34	7.37	5.92/8.31	7.1/7.59	
	Dissolved Oxygen (mg/L)	156	7.50	6.80	2.97/34.62	5.32/9.12	21% of values<OWQS and 5% of values<alt OWQS
	Hardness (mg/L)	155	88	85	24/197	66/107	
Minerals	Total Dissolved Solids (mg/L)	40	197	183	51/405	140/249	
	Specific Conductivity (uS/cm)	155	247	225	62/757	152/307	
	Chloride (mg/L)	105	22	15	<10/148	10/25	
	Sulfate (mg/L)	105	53	47	16/134	34/64	
Nutrients	Total Phosphorus (mg/L)	159	0.136	0.100	<0.010/0.63	0.070/0.180	
	Total Nitrogen (mg/L)	158	1.15	1.00	0.36/4.21	0.77/1.35	
	Nitrate/Nitrite (mg/L)	158	0.14	0.09	<0.05/0.7	<0.05/0.19	
	Chlorophyll A (mg/m^3)	58	10.4	5.5	<0.5/42.5	2.8/17.1	TSI=53.6
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	50	872	100	<10/19863	42/905	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	50	832	70	<10/19863	19/323	Mean>OWQS

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	NEI	S						S	NEI	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				NS								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes: *Fish Consumption not supporting for Lead*

Muddy Boggy Creek at Unger

Sample Record	Times Visited	Station ID
July 1999 - Current	169	410400010070-001AT

Stream Data

County	Choctaw	Request Data By Email
Location	East of the Town of Unger on US 70	
Latitude/Longitude	34.02512076, -95.7511845	
Planning Watershed	Blue-Boggy (8-digit HUC -11140103)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	152	18.6	19.2	2.8/36.3	11.3/25.9	
In-Situ	Turbidity (NTU)	153	113	65	3/857	36/119	26% of values>OWQS
In-Situ	pH (units)	151	7.68	7.69	6.71/8.21	7.53/7.90	
In-Situ	Dissolved Oxygen (mg/L)	152	8.35	7.84	3.87/40.07	6.28/10.16	
In-Situ	Hardness (mg/L)	153	135	135	21/268	103/172	
Minerals	Total Dissolved Solids (mg/L)	34	273	255	95/921	165/294	
Minerals	Specific Conductivity (uS/cm)	151	363	370	100/937	231/459	
Minerals	Chloride (mg/L)	98	43	32	<10/199	14/60	
Minerals	Sulfate (mg/L)	98	35	29	13/134	22/41	
Nutrients	Total Phosphorus (mg/L)	153	0.131	0.092	<0.010/1.020	0.060/0.150	
Nutrients	Total Nitrogen (mg/L)	152	0.88	0.75	<0.05/2.19	0.55/1.08	
Nutrients	Nitrate/Nitrite (mg/L)	152	0.14	0.08	<0.05/0.88	<0.05/0.19	
Nutrients	Chlorophyll A (mg/m^3)	57	8.8	7.4	<0.1/22.3	3.0/13.7	TSI=52.0
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	42	641	94	<10/8000	28/732	Mean>OWQS
Bacteria	E. Coli (cfu/100ml)(*-Geo. Mn.)	42	247	52	<10/2755	18/196	Mean>OWQS

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	S						S	NEI	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Neosho River at Chouteau

Sample Record	Times Visited	Station ID
November 1998 - Current	160	121600010280-001AT

Stream Data

County	Mayes	Request Data By Email
Location	East of the Town of Chouteau on US 412	
Latitude/Longitude	36.17655098, -95.27570708	
Planning Watershed	Grand (8-digit HUC - 11070209)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	141	17.8	19.0	3.8/35.3	10.4/24.7	
	Turbidity (NTU)	142	15	11	3/72	9/16	
	pH (units)	141	7.94	7.92	7.11/9.41	7.64/8.21	
	Dissolved Oxygen (mg/L)	141	9.36	8.93	2.45/17.25	7.4/11.38	See Notes
	Hardness (mg/L)	142	128	127	75/204	113/140	
Minerals	Total Dissolved Solids (mg/L)	25	172	166	128/240	153/191	
	Specific Conductivity (uS/cm)	141	291	292	141/610	250/324	
	Chloride (mg/L)	77	11	10	<10/26	<10/13	
	Sulfate (mg/L)	77	35	32	22/157	27/35	
Nutrients	Total Phosphorus (mg/L)	149	0.224	0.132	0.01/1.38	0.09/0.25	
	Total Nitrogen (mg/L)	149	1.19	1.13	0.49/2.41	0.87/1.49	
	Nitrate/Nitrite (mg/L)	150	0.52	0.44	0.05/1.4	0.21/0.76	
	Chlorophyll A (mg/m^3)	87	15.8	12.8	1.5/70	8.1/19.1	TSI=57.7
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	44	85	10	<10/1400	<10/26	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	44	45	10	<10/882	<10/20	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	NS	S						S	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									S			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Upstream water quality probes show numerous samples were below 2 mg/L

Neosho River at Commerce

Sample Record	Times Visited	Station ID
October 2000 - Current	154	121600040220-001AT

Stream Data

County	Ottawa	Request Data By Email
Location	West of the Town of Commerce on County Road E60	
Latitude/Longitude	36.92899836, -94.95707349	
Planning Watershed	Grand (8-digit HUC - 11070206)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	134	16.9	17.8	0.3/33.2	8.7/25.1	
In-Situ	Turbidity (NTU)	136	117	54	4/1000	25/107	23% of values>OWQS
In-Situ	pH (units)	135	7.90	7.95	6.53/9.05	7.71/8.13	
In-Situ	Dissolved Oxygen (mg/L)	135	9.04	8.40	3.34/15.43	7.14/10.93	
In-Situ	Hardness (mg/L)	135	179	177	15/300	146/221	
Minerals	Total Dissolved Solids (mg/L)	12	261	227	140/578	169/330	
Minerals	Specific Conductivity (uS/cm)	135	377	378	81/701	297/446	
Minerals	Chloride (mg/L)	88	11	10	<10/20	10/13	
Minerals	Sulfate (mg/L)	88	62	58	22/166	40/77	
Nutrients	Total Phosphorus (mg/L)	143	0.199	0.163	0.01/1.04	0.1/0.24	
Nutrients	Total Nitrogen (mg/L)	143	1.42	1.19	0.3/4.42	0.71/1.85	
Nutrients	Nitrate/Nitrite (mg/L)	143	0.43	0.29	<.05/3.59	0.05/0.6	
Nutrients	Chlorophyll A (mg/m^3)	102	19.2	12.5	0.1/200	6.3/23.4	TSI=59.6
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	42	7325	76	10/282000	26/673	Mean>OWQS
Bacteria	E. Coli (cfu/100ml)(*-Geo. Mn.)	42	454	31	<10/8074	10/81	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	NS						S	S	NS
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish & Wildlife Propagation not supporting for Lead

Neosho River at Connor Bridge

Sample Record	Times Visited	Station ID
December 1998 – March 2007	105	121600040010-001AT

Stream Data

County	Ottawa	Request Data By Email
Location	Northeast of the Town of Fairland on County Road S 590	
Latitude/Longitude	36.79864906, -94.81927419	
Planning Watershed	Grand (8-digit HUC -11070206)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	68	17.5	18.0	2.9/33.1	8.3/24.5	
	Turbidity (NTU)	68	87	37	4/>1000	17/97	
	pH (units)	67	7.83	7.80	6.66/9.33	7.43/8.20	
	Dissolved Oxygen (mg/L)	68	8.54	8.35	1.69/13.58	6.59/11.03	
	Hardness (mg/L)	69	181	191	76/277	135/218	
Minerals	Total Dissolved Solids (mg/L)	69	233	235	88/413	193/273	
	Specific Conductivity (uS/cm)	68	376	377	137/860	301/449	
	Chloride (mg/L)	69	12	<10	<10/31	<10/12	
	Sulfate (mg/L)	69	66	67	<10/117	47/86	
Nutrients	Total Phosphorus (mg/L)	70	0.198	0.163	0.047/0.890	0.118/0.251	
	Total Nitrogen (mg/L)	68	1.29	1.18	0.31/3.14	0.77/1.54	
	Nitrate/Nitrite (mg/L)	69	0.44	0.30	<0.05/1.63	0.12/0.72	
	Chlorophyll A (mg/m^3)	15	13.9	11.4	0.9/45.4	4.6/18.0	TSI=56.4
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	23	1697	<10	<10/37000	<10/30	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	23	152	<10	<10/2359	<10/52	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						U	S	S
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									S			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

U = Assessment yielded undetermined supporting status

Neosho River at Langley

Sample Record	Times Visited	Station ID
December 1998 - Current	171	121600020170-001AT

Stream Data

County	Mayes	Request Data By Email
Location	South of the Town of Langley on State Highway 82	
Latitude/Longitude	36.44372767, -95.05554329	
Planning Watershed	Grand (8-digit HUC - 11070209)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	148	16.3	17.1	2.1/27.1	10.4/23.2	
In-Situ	Turbidity (NTU)	151	9	6	1/59	4/11	
In-Situ	pH (units)	148	7.74	7.76	6.89/9.26	7.52/8	
In-Situ	Dissolved Oxygen (mg/L)	149	8.18	7.93	2.12/15.73	6.16/10.34	
In-Situ	Hardness (mg/L)	150	127	124	11/236	112/142	
Minerals	Total Dissolved Solids (mg/L)	29	171	166	125/283	149/187	
Minerals	Specific Conductivity (uS/cm)	149	267	270	<10/475	241/300	
Minerals	Chloride (mg/L)	105	9	10	<10/65	<10/10	
Minerals	Sulfate (mg/L)	105	28	26	17/61	23/31	
Nutrients	Total Phosphorus (mg/L)	157	0.087	0.080	0.01/0.25	0.06/0.11	
Nutrients	Total Nitrogen (mg/L)	157	1.05	0.95	0.3/3.56	0.72/1.26	
Nutrients	Nitrate/Nitrite (mg/L)	158	0.54	0.47	<.05/3.14	0.26/0.72	
Nutrients	Chlorophyll A (mg/m^3)	97	5.5	4.0	0.6/23.2	2.3/6.9	TSI=47.3
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	41	36	10	<10/300	<10/31	
Bacteria	E. Coli (cfu/100ml)(*-Geo. Mn.)	41	13	10	<10/86	<10/10	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						U	NEI	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									S			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

U = Assessment yielded undetermined supporting status

North Canadian River at Dustin

Sample Record	Times Visited	Station ID
November 1998 – May 2008	122	520500010110-001AT

Stream Data

County	McIntosh	Request Data By Email
Location	North of the Town of Dustin on State Highway 84	
Latitude/Longitude	35.31617996, -95.95493326	
Planning Watershed	Eufaula (8-digit HUC - 11100302)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	86	18.2	18.2	-0.5/34.4	10.8/26.2	
In-Situ	Turbidity (NTU)	85	246	133	21/>1000	55/294	78% of values>OWQS
In-Situ	pH (units)	85	8.27	8.23	7.02/9.48	7.94/8.58	
In-Situ	Dissolved Oxygen (mg/L)	85	9.18	8.98	3.89/16.80	7.22/10.99	
In-Situ	Hardness (mg/L)	87	242	210	89/1900	163/260	
Minerals	Total Dissolved Solids (mg/L)	86	455	451	127/800	367/581	
Minerals	Specific Conductivity (uS/cm)	85	725	710	199/1271	587/921	
Minerals	Chloride (mg/L)	90	107	113	15/218	73/137	
Minerals	Sulfate (mg/L)	89	98	89	34/316	61/119	
Nutrients	Total Phosphorus (mg/L)	90	0.475	0.394	0.147/1.220	0.323/0.598	
Nutrients	Total Nitrogen (mg/L)	88	2.31	2.08	0.59/5.44	1.60/2.86	
Nutrients	Nitrate/Nitrite (mg/L)	90	0.59	0.28	<0.05/3.49	<0.05/0.76	
Nutrients	Chlorophyll A (mg/m^3)	13	93.6	50.3	11.5/287.5	21.1/148.0	TSI=75.0
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	25	861	200	<10/12000	20/537	Mean>OWQS
Bacteria	E. Coli (cfu/100ml)(*-Geo. Mn.)	25	75	<10	<10/528	<10/80	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	S						U	S	S
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				NS								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish Consumption not supporting for Lead
U = Assessment yielded undetermined supporting status

North Canadian River at El Reno

Sample Record	Times Visited	Station ID
November 1998 - Current	165	520530000010-001AT

Stream Data

County	Canadian	Request Data By Email
Location	North of the Town of El Reno on US 81	
Latitude/Longitude	35.56261214, -97.95884556	
Planning Watershed	Central (8-digit HUC -11100301)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	155	17.6	18.2	-0.3/34.8	9/25.4	
	Turbidity (NTU)	152	48	19	2/>1000	7/40	
	pH (units)	152	8.16	8.20	7.1/9.3	7.96/8.35	
	Dissolved Oxygen (mg/L)	155	9.67	9.21	0.34/18.69	7.83/11.41	
	Hardness (mg/L)	155	453	452	10/1080	390/512	
Minerals	Total Dissolved Solids (mg/L)	94	855	888	326/1200	791/961	
	Specific Conductivity (uS/cm)	155	1326	1409	<10/2270	1216/1509	
	Chloride (mg/L)	153	143	148	<10/239	118/180	
	Sulfate (mg/L)	153	276	280	111/474	227/320	
Nutrients	Total Phosphorus (mg/L)	155	0.153	0.112	<0.01/1.45	0.06/0.21	
	Total Nitrogen (mg/L)	153	1.03	0.89	0.16/4.7	0.66/1.35	
	Nitrate/Nitrite (mg/L)	153	0.13	0.05	<0.05/0.69	<0.05/0.18	
	Chlorophyll A (mg/m^3)	88	22.1	12.9	0.5/143	3.7/31.4	TSI=61
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	36	459	135	<10/6000	45/288	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	36	205	31	<10/2420	<10/116	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						S	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

North Canadian River at Harrah

Sample Record	Times Visited	Station ID
November 1998 – December 2012	97	520510000110-001AT

Stream Data

County	Oklahoma	Request Data By Email
Location	North of the Town of Harrah on State Highway 62	
Latitude/Longitude	35.50033302, -97.19429527	
Planning Watershed	Central (8-digit HUC - 11100302)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	81	19.9	20.6	1.4/34.3	12.8/26.8	
In-Situ	Turbidity (NTU)	80	118	45	6/>1000	20/91	44% of values>OWQS
In-Situ	pH (units)	80	8.20	8.12	7.25/9.6	7.84/8.44	
In-Situ	Dissolved Oxygen (mg/L)	81	9.83	9.37	5.22/20	7.84/11.19	
In-Situ	Hardness (mg/L)	80	314	255	80/3950	203/326	
Minerals	Total Dissolved Solids (mg/L)	18	596	620	332/848	498/666	
Minerals	Specific Conductivity (uS/cm)	81	937	958	153/1394	740/1134	
Minerals	Chloride (mg/L)	81	131	137	21/290	98/164	
Minerals	Sulfate (mg/L)	80	128	118	40/240	88/168	
Nutrients	Total Phosphorus (mg/L)	81	1.028	0.900	0.285/3.12	0.573/1.315	
Nutrients	Total Nitrogen (mg/L)	80	4.31	3.72	0.91/11.65	2.64/5.32	
Nutrients	Nitrate/Nitrite (mg/L)	81	2.76	2.01	0.14/10.11	0.91/3.78	
Nutrients	Chlorophyll A (mg/m^3)	24	45.4	36.0	2.6/157	22.3/64.8	TSI=68.0
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	27	1470	298	40/12000	85/1182	Mean>OWQS
Bacteria	E. Coli (cfu/100ml)(*-Geo. Mn.)	27	915	74	<10/10462	20/305	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	S						S	S	S
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			
Fish Consumption				NS								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes: *Fish Consumption not supporting for Lead*

North Canadian River at Seiling

Sample Record	Times Visited	Station ID
November 1998 - Current	165	720500010010-001AT

Stream Data

County	Major	Request Data By Email
Location	North of the Town of Seiling on US 281	
Latitude/Longitude	36.18359095, -98.92046478	
Planning Watershed	Panhandle (8-digit HUC -11100301)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	156	17.1	17.0	-0.5/36.5	10.5/24.6	
	Turbidity (NTU)	157	38	16	1/>1000	5/38	
	pH (units)	152	8.16	8.19	7.19/9.10	8.06/8.31	
	Dissolved Oxygen (mg/L)	155	10.21	10.09	1.20/21.73	8.52/11.70	
	Hardness (mg/L)	155	551	544	40/2098	451/625	
Minerals	Total Dissolved Solids (mg/L)	95	1082	1100	532/1350	1010/1190	
	Specific Conductivity (uS/cm)	155	1566	1579	547/3250	1443/1724	
	Chloride (mg/L)	154	189	185	<10/540	168/211	
	Sulfate (mg/L)	155	345	348	106/669	293/397	
Nutrients	Total Phosphorus (mg/L)	154	0.101	0.082	<0.010/0.360	0.040/0.130	
	Total Nitrogen (mg/L)	155	1.05	0.98	0.29/2.58	0.73/1.31	
	Nitrate/Nitrite (mg/L)	155	0.30	0.20	<0.05/1.19	<0.05/0.52	
	Chlorophyll A (mg/m^3)	50	8.5	5.2	0.9/52.5	2.0/10.1	TSI=51.6
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	33	2651	160	<10/76000	31/450	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	33	155	31	<10/3130	<10/102	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						NS	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

North Canadian River at Shawnee

Sample Record	Times Visited	Station ID
February 2002 - 2012	105	520510000110-005AT

Stream Data

County	Pottawatomie	Request Data by Email
Location	East of the Town of Shawnee on State Highway 3E	
Latitude/Longitude	35.41056345, -96.78883533	
Planning Watershed	Central (8-digit HUC - 11100302)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	86	17.9	18.6	-0.4/34.4	10.4/25.6	
	Turbidity (NTU)	87	133	56	3/>1000	22/143	33% of values>OWQS
	pH (units)	85	8.30	8.23	7.26/9.98	7.93/8.52	
	Dissolved Oxygen (mg/L)	85	10.30	9.46	2.64/25.01	8.06/12.48	
	Hardness (mg/L)	84	260	260	116/449	207/307	
Minerals	Total Dissolved Solids (mg/L)	35	579	600	327/752	558/634	14% of values>OWQS
	Specific Conductivity (uS/cm)	86	854	884	242/1387	688/1040	
	Chloride (mg/L)	85	119	127	18/181	94/150	
	Sulfate (mg/L)	84	112	107	55/266	78/128	
Nutrients	Total Phosphorus (mg/L)	87	0.887	0.760	0.137/2.47	0.618/1.05	
	Total Nitrogen (mg/L)	87	4.34	3.87	1.67/9.42	2.95/5.3	
	Nitrate/Nitrite (mg/L)	87	2.34	1.84	<0.05/7.79	1.04/3.17	
	Chlorophyll A (mg/m^3)	52	92.5	61.2	<0.5/408	40.5/125.3	TSI=75.0
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	30	1674	105	<10/24192	18/600	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	30	1189	41	<10/24192	<10/165	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	S						S	S	S
Aesthetics												NEI
Agriculture					S		S	NS				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

North Canadian River at Wetumka

Sample Record	Times Visited	Station ID
September 1999 - Current	164	520510000010-001AT

Stream Data

County	Hughes	Request Data By Email
Location	Northeast of the Town of Wetumka on US 75	
Latitude/Longitude	35.26449455, -96.20706383	
Planning Watershed	Central (8-digit HUC -11100302)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	151	19.0	20.0	0.8/36.2	12.3/26.9	
In-Situ	Turbidity (NTU)	153	216	100	16/>1000	45/255	18% of values>OWQS
In-Situ	pH (units)	150	8.40	8.33	7.47/9.90	8.06/8.76	24% of values>OWQS
In-Situ	Dissolved Oxygen (mg/L)	150	10.21	10.03	4.64/19.46	7.97/12.22	
In-Situ	Hardness (mg/L)	151	236	202	60/2500	172/263	
Minerals	Total Dissolved Solids (mg/L)	86	444	442	238/726	376/512	
Minerals	Specific Conductivity (uS/cm)	151	740	742	244/1208	630/885	
Minerals	Chloride (mg/L)	150	102	108	11/260	79/126	
Minerals	Sulfate (mg/L)	149	90	82	23/247	61/106	
Nutrients	Total Phosphorus (mg/L)	152	0.579	0.481	0.050/1.510	0.390/0.720	
Nutrients	Total Nitrogen (mg/L)	151	2.97	2.72	0.61/6.39	2.00/3.87	
Nutrients	Nitrate/Nitrite (mg/L)	152	0.92	0.43	<0.05/4.89	<0.05/1.38	
Nutrients	Chlorophyll A (mg/m^3)	92	115	84	4/502	46/157	TSI=78
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	54	1503	105	<10/34000	28/520	Mean>OWQS
Bacteria	E. Coli (cfu/100ml)(*-Geo. Mn.)	54	315	26	<10/7701	<10/136	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	NS	S	S						NS	S	S
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Sampling and Assessment by the **Oklahoma Water Resources Board** – 3800 Classen Blvd, Oklahoma City, OK, 73118 – 405.530.8800 – http://www.owrb.ok.gov

North Canadian River at Woodward

Sample Record	Times Visited	Station ID
October 2000 - Current	146	720500010140-001AT

Stream Data

County	Woodward	Request Data By Email
Location	East of the Town of Woodward on US 412	
Latitude/Longitude	36.43687215, -99.27835799	
Planning Watershed	Panhandle (8-digit HUC -11100301)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	134	18.7	19.2	0.3/35.9	12.6/26.0	
	Turbidity (NTU)	136	19	8	2/125	4/25	
	pH (units)	130	8.22	8.22	7.40/9.15	7.99/8.43	
	Dissolved Oxygen (mg/L)	132	11.13	10.82	4.67/23.29	8.87/12.68	
	Hardness (mg/L)	134	570	512	188/3620	418/693	
Minerals	Total Dissolved Solids (mg/L)	74	1390	1445	384/2160	1125/1720	
	Specific Conductivity (uS/cm)	134	1904	1796	650/3361	1450/2363	
	Chloride (mg/L)	135	293	259	95/600	211/377	
	Sulfate (mg/L)	134	346	316	78/743	221/467	
Nutrients	Total Phosphorus (mg/L)	135	0.202	0.147	<0.010/0.850	0.080/0.300	
	Total Nitrogen (mg/L)	136	2.17	1.72	0.53/7.55	1.27/2.78	
	Nitrate/Nitrite (mg/L)	136	1.16	0.75	<0.05/5.91	0.40/1.60	
	Chlorophyll A (mg/m^3)	75	24.7	11.9	2.4/489.0	6.3/22.7	TSI=62.1
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	34	2456	186	<10/65000	53/625	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	34	635	41	<10/19863	20/63	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						S	U	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

U = Assessment yielded undetermined supporting status

Poteau River at Heavener

Sample Record	Times Visited	Station ID
November 1998 – December 2012	141	220100020010-001AT

Stream Data

County	LeFlore	Request Data By Email
Location	South of the Town of Heavener on State Highway 59	
Latitude/Longitude	34.85833476, -94.62923436	
Planning Watershed	Lower Arkansas (8-digit HUC - 11110105)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	118	19.0	19.2	1.8/34.9	12.1/25.8	
In-Situ	Turbidity (NTU)	121	23	16	0/152	11/25	
In-Situ	pH (units)	118	7.27	7.25	5.96/8.97	6.92/7.63	
In-Situ	Dissolved Oxygen (mg/L)	118	8.19	7.80	3.77/16	6.58/9.79	
In-Situ	Hardness (mg/L)	118	48	35	<10/188	21/62	
Minerals	Total Dissolved Solids (mg/L)	20	94	66	42/292	53/112	
Minerals	Specific Conductivity (uS/cm)	118	136	102	<10/486	57/180	
Minerals	Chloride (mg/L)	77	10	10	<10/105	<10/10	
Minerals	Sulfate (mg/L)	78	35	21	10/146	16/41	
Nutrients	Total Phosphorus (mg/L)	114	0.075	0.054	<0.010/0.430	0.038/0.087	
Nutrients	Total Nitrogen (mg/L)	112	0.67	0.64	0.19/1.62	0.46/0.78	
Nutrients	Nitrate/Nitrite (mg/L)	113	0.19	0.16	<0.05/0.74	<0.05/0.29	
Nutrients	Chlorophyll A (mg/m^3)	13	9.5	9.4	1.8/29.7	3.2/13.1	TSI=52.7
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	28	65	20	<10/400	<10/80	Mean>OWQS
Bacteria	E. Coli (cfu/100ml)(*-Geo. Mn.)	28	58	31	<10/393	13/52	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						S	NEI	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Poteau River at Pocola

Sample Record	Times Visited	Station ID
November 1998 - Current	185	220100010010-001AT

Stream Data

County	LeFlore	Request Data By Email
Location	West of the Town of Pocola on County Road E 1220	
Latitude/Longitude	35.23864842, -94.52021262	
Planning Watershed	Lower Arkansas (8-digit HUC -11110105)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	178	18.9	19.9	2.9/34.6	11.0/26.0	
	Turbidity (NTU)	187	70	51	11/476	35/84	19% of values>OWQS
	pH (units)	182	7.29	7.26	5.39/8.99	6.97/7.63	
	Dissolved Oxygen (mg/L)	183	8.13	7.97	3.31/15.94	6.54/9.57	
	Hardness (mg/L)	185	51	47	<10/414	35/57	
Minerals	Total Dissolved Solids (mg/L)	29	118	96	16/675	71/125	
	Specific Conductivity (uS/cm)	179	142	133	<10/530	83/175	
	Chloride (mg/L)	90	9	10	<10/33	<10/10	
	Sulfate (mg/L)	90	37	34	<10/88	25/46	
Nutrients	Total Phosphorus (mg/L)	183	0.120	0.104	0.020/0.420	0.070/0.150	
	Total Nitrogen (mg/L)	180	1.10	0.98	0.17/6.45	0.79/1.22	
	Nitrate/Nitrite (mg/L)	182	0.36	0.24	<0.05/4.96	0.13/0.41	
	Chlorophyll A (mg/m^3)	97	16.2	14.6	1.9/77.3	9.6/19.3	TSI=57.9
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	48	173	40	<10/2420	20/72	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	48	136	26	<10/2420	<10/41	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	NS						S	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				NS								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish & Wildlife Propagation not supporting for Lead
Fish Consumption not supporting for Lead

Sampling and Assessment by the **Oklahoma Water Resources Board** – 3800 Classen Blvd, Oklahoma City, OK, 73118 – 405.530.8800 – http://www.owrb.ok.gov

North Fork of the Red River at Carter

Sample Record	Times Visited	Station ID
November 1998 - Current	159	311510010010-001AT

Stream Data

County	Beckham	Request Data By Email
Location	South of the Town of Carter on State Highway 34	
Latitude/Longitude	35.16712931, -99.50730365	
Planning Watershed	Southwest (8-digit HUC -11120302)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	139	18.1	18.6	-0.9/36.5	10/25.1	
	Turbidity (NTU)	144	51	14	1/>1000	6/35	
	pH (units)	137	8.09	8.11	7.61/8.55	7.94/8.24	
	Dissolved Oxygen (mg/L)	139	10.43	9.38	5.33/17.00	8.11/11.04	
	Hardness (mg/L)	142	948	943	89/1960	820/1081	
Minerals	Total Dissolved Solids (mg/L)	83	1995	1909	1132/3050	1760/2152	
	Specific Conductivity (uS/cm)	139	2828	2754	970/5645	2460/3166	
	Chloride (mg/L)	144	403	390	38/1100	305/470	
	Sulfate (mg/L)	144	738	727	64/1240	602/884	
Nutrients	Total Phosphorus (mg/L)	141	0.075	0.032	<0.010/1.330	0.020/0.060	
	Total Nitrogen (mg/L)	141	1.02	0.91	0.34/3.17	0.68/1.21	
	Nitrate/Nitrite (mg/L)	142	0.32	0.21	0.03/2.77	0.05/0.51	
	Chlorophyll A (mg/m^3)	61	11.6	7.2	0.94/70.7	3.24/13.6	TSI=54.6
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	27	300	30	<10/2420	<10/90	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	27	193	20	<10/1733	11/96	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						S	NEI	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									S			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

North Fork of the Red River at Headrick

Sample Record	Times Visited	Station ID
November 1998 - Current	210	311500010020-001AT

Stream Data

County	Tillman	Request Data By Email
Location	East of the Town of Headrick on US 62	
Latitude/Longitude	34.6379245, -99.10311528	
Planning Watershed	Southwest (8-digit HUC -11120303)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	193	19.3	20.0	-1.2/35.3	11.7/27.4	
In-Situ	Turbidity (NTU)	202	124	11	1/>1000	6/43	
In-Situ	pH (units)	190	8.06	8.10	6.8/9.1	7.86/8.22	
In-Situ	Dissolved Oxygen (mg/L)	193	9.58	9.23	3.57/15.21	8.29/11.05	
In-Situ	Hardness (mg/L)	198	1132	1135	100/4154	863/1391	
Minerals	Total Dissolved Solids (mg/L)	149	5799	5240	660/13700	3990/7175	100% of values>OWQS
Minerals	Specific Conductivity (uS/cm)	194	9025	8578	594/23053	5997/11092	
Minerals	Chloride (mg/L)	207	2679	2350	151/9620	1490/3270	97% of values>OWQS
Minerals	Sulfate (mg/L)	206	779	762	34/2702	610/927	
Nutrients	Total Phosphorus (mg/L)	173	0.135	0.043	<0.010/2.460	0.030/0.090	
Nutrients	Total Nitrogen (mg/L)	165	1.03	0.75	0.27/7.28	0.63/1.14	
Nutrients	Nitrate/Nitrite (mg/L)	166	0.21	<0.05	<0.05/1.52	<0.05/0.28	
Nutrients	Chlorophyll A (mg/m^3)	96	19.1	12.1	0.2/269.0	5.5/22.6	TSI=59.6
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	29	1198	200	<10/19863	51/750	Mean>OWQS
Bacteria	E. Coli (cfu/100ml)(*-Geo. Mn.)	29	486	143	<10/8164	74/396	Mean>OWQS

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	NS						S	NS	S
Aesthetics												S
Agriculture					S		NS	NS				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish & Wildlife Propagation not supporting for Selenium

Sampling and Assessment by the **Oklahoma Water Resources Board** – 3800 Classen Blvd, Oklahoma City, OK, 73118 – 405.530.8800 – http://www.owrb.ok.gov

North Fork of the Red River at Tipton

Sample Record	Times Visited	Station ID
February 2013 - Current	41	311500010020-002AT

Stream Data

County	Tillman	Request Data By Email
Location	West of the Town of Tipton on State Highway 5	
Latitude/Longitude	34.506944, -99.207778	
Planning Watershed	Southwest (8-digit HUC -11120303)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	38	20.1	21.3	1.7/33.0	12.8/26.1	
	Turbidity (NTU)	40	75	18	7/>1000	11/36	12% of values>OWQS
	pH (units)	38	8.36	8.31	7.58/9.33	8.08/8.64	
	Dissolved Oxygen (mg/L)	38	12.27	12.28	6.20/20.51	8.89/14.50	
	Hardness (mg/L)	40	1069	1100	169/1680	850/1272	
Minerals	Total Dissolved Solids (mg/L)	41	4999.22	4650.00	488/7820	3790/6880	94% of values>OWQS
	Specific Conductivity (uS/cm)	38	8427.49	7890.00	711/13831.9	6410.13/11573	
	Chloride (mg/L)	41	2497.66	2380.00	104/4280	1720/3510	100% of values>OWQS
	Sulfate (mg/L)	41	646.17	696.00	120/906	558/781	
Nutrients	Total Phosphorus (mg/L)	41	0.672	0.465	0.080/2.520	0.310/0.860	
	Total Nitrogen (mg/L)	41	1.98	1.79	1.02/4.77	1.48/2.36	
	Nitrate/Nitrite (mg/L)	41	0.74	0.49	0.15/2.24	0.29/1.14	
	Chlorophyll A (mg/m^3)	41	28.9	20.8	4.39/66.4	15.1/43.5	TSI=63.6
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	4	1700	1700	1414/1986	1414/1986	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	4	214	214	99/330	99/330	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	S						S	NEI	S
Aesthetics												NEI
Agriculture					S		NS	NS				
Primary Body Contact Recreation									NEI			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Sampling and Assessment by the **Oklahoma Water Resources Board** – 3800 Classen Blvd, Oklahoma City, OK, 73118 – 405.530.8800 – http://www.owrb.ok.gov

Red River at Burkburnett

Sample Record	Times Visited	Station ID
January 2013 - Current	41	311310010010-002AT

Stream Data

County	Cotton	Request Data By Email
Location	North of the Town of Burkburnett, Texas on Interstate 44	
Latitude/Longitude	34.2095473, -98.33061891	
Planning Watershed	Beaver-Cache (8-digit HUC - 11130102)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	40	18.3	16.6	2.9/30.1	14.2/25.5	
	Turbidity (NTU)	40	388	104	10/>1000	31/>1000	42% of values>OWQS
	pH (units)	40	7.98	8.01	7.55/8.30	7.80/8.20	
	Dissolved Oxygen (mg/L)	40	9.56	9.11	6.88/13.85	7.72/10.43	
	Hardness (mg/L)	40	1690	1625	44/2820	1190/2238	
Minerals	Total Dissolved Solids (mg/L)	41	6530	6730	1820/10200	5360/7680	100% of values>OWQS
	Specific Conductivity (uS/cm)	40	10881	10930	3243/18690	9095/11945	
	Chloride (mg/L)	41	3166	3380	735/5320	2480/3600	100% of values>OWQS
	Sulfate (mg/L)	41	1245	1260	406/1950	1040/1395	100% of values>OWQS
Nutrients	Total Phosphorus (mg/L)	41	1.124	0.166	0.030/5.900	0.110/1.510	
	Total Nitrogen (mg/L)	41	4.04	1.60	0.99/17.97	1.35/5.27	
	Nitrate/Nitrite (mg/L)	41	0.29	<0.05	<0.05/1.18	<0.05/0.58	
	Chlorophyll A (mg/m^3)	41	34.8	28.7	3.3/99.6	18.5/43.4	TSI=65.4
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	10	1997	2420	308/2420	1892/2420	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	10	1284	1120	461/2420	955/1580	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	NS						NS	S	NS
Aesthetics												NEI
Agriculture					NS		NS	NS				
Primary Body Contact Recreation									NEI			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				NS								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish & Wildlife Propagation not supporting for Selenium, Mercury, Lead, and Chromium
Fish Consumption not supporting for Mercury

Red River at Davidson

Sample Record	Times Visited	Station ID
November 1998 - Current	200	311310010010-001AT

Stream Data

County	Tillman	Request Data By Email
Location	South of the Town of Davidson on State Highway 183	
Latitude/Longitude	34.2115454, -99.08155505	
Planning Watershed	Beaver-Cache (8-digit HUC - 11130102)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	188	18.7	19.6	-0.82/34.5	11.4/25.2	
	Turbidity (NTU)	192	254	62	5/>1000	23/236	52% of values>OWQS
	pH (units)	186	8.07	8.10	6.98/9.12	7.93/8.22	
	Dissolved Oxygen (mg/L)	188	10.20	9.71	0.48/21.97	8.27/12.06	
	Hardness (mg/L)	191	1393	1370	277/2700	1060/1750	
Minerals	Total Dissolved Solids (mg/L)	142	5290	5330	520/13600	3935/6625	100% of values>OWQS
	Specific Conductivity (uS/cm)	189	8111	8424	1261/21375	6089/9811	
	Chloride (mg/L)	198	2196	2120	219/5980	1553/2725	100% of values>OWQS
	Sulfate (mg/L)	198	1162	1105	182/6680	870/1350	100% of values>OWQS
Nutrients	Total Phosphorus (mg/L)	160	0.433	0.180	<0.010/9.400	0.100/0.340	
	Total Nitrogen (mg/L)	160	2.40	1.56	0.58/34.95	1.16/2.14	
	Nitrate/Nitrite (mg/L)	161	0.38	0.19	<0.05/2.34	<0.05/0.64	
	Chlorophyll A (mg/m^3)	91	49.2	38.3	1.6/192.0	22.0/69.0	TSI=68.8
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	27	2093	80	<10/21000	<10/2419.6	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	27	1370	96	<10/17329	20/281	Mean>OWQS

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	NS						S	S	S
Aesthetics												NEI
Agriculture					NS		NS	NS				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish & Wildlife Propagation not supporting for Selenium

Red River at Harris

Sample Record	Times Visited	Station ID
November 1998 - Current	168	410100010010-001AT

Stream Data

County	McCurtain	Request Data By Email
Location	South of the Town of Harris on State Highway 259	
Latitude/Longitude	33.68687568, -94.69422864	
Planning Watershed	Southeast (8-digit HUC - 11140106)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	150	19.9	20.6	3.0/33.5	13.1/27.0	
	Turbidity (NTU)	156	73	42	9/614	24/85	
	pH (units)	151	7.96	8.00	7.10/8.74	7.77/8.18	
	Dissolved Oxygen (mg/L)	150	8.58	8.41	4.17/13.86	7.32/9.90	
	Hardness (mg/L)	153	263	270	14/758	184/324	
Minerals	Total Dissolved Solids (mg/L)	91	547	534	112/1204	300/774	
	Specific Conductivity (uS/cm)	150	1025	1018	156/2423	649/1453	
	Chloride (mg/L)	154	164	162	<10/395	85/236	
	Sulfate (mg/L)	154	146	140	38/308	87/195	
Nutrients	Total Phosphorus (mg/L)	155	0.131	0.102	0.020/0.720	0.080/0.150	
	Total Nitrogen (mg/L)	155	0.98	0.90	0.15/2.81	0.70/1.22	
	Nitrate/Nitrite (mg/L)	155	0.14	<0.05	<0.05/0.78	<0.05/0.2	
	Chlorophyll A (mg/m^3)	69	25.6	24.1	2.9/87.8	14.9/34.2	TSI=62.4
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	51	53	23	<10/600	<10/60	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	51	20	<10	<10/134	<10/21	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						U	S	S
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				NS								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish Consumption not supporting for Lead
U = Assessment yielded undetermined supporting status

Red River at Hugo

Sample Record	Times Visited	Station ID
November 1998 - Current	195	410400010010-001AT

Stream Data

County	Choctaw	Request Data By Email
Location	South of the Town of Hugo on State Highway 271	
Latitude/Longitude	33.87545921, -95.50182137	
Planning Watershed	Blue-Boggy (8-digit HUC - 11140101)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	154	19.3	19.5	3.5/34.4	12.3/27.0	
	Turbidity (NTU)	156	80	35	7/766	22/71	
	pH (units)	153	8.04	8.07	6.79/8.73	7.83/8.27	
	Dissolved Oxygen (mg/L)	154	9.50	9.26	4.18/39.16	7.88/10.95	
	Hardness (mg/L)	155	288	294	66/480	236/346	
Minerals	Total Dissolved Solids (mg/L)	97	649	685	130/1080	505/840	
	Specific Conductivity (uS/cm)	154	1155	1162	210/2739	892/1518	
	Chloride (mg/L)	157	192	205	5/394	134/263	
	Sulfate (mg/L)	157	159	159	31/320	110/207	
Nutrients	Total Phosphorus (mg/L)	165	0.118	0.082	<0.010/0.930	0.060/0.130	
	Total Nitrogen (mg/L)	156	0.95	0.85	0.24/2.87	0.67/1.03	
	Nitrate/Nitrite (mg/L)	156	0.16	0.06	<0.05/0.82	<0.05/0.23	
	Chlorophyll A (mg/m^3)	73	20.7	18.7	2.7/56.0	9.7/29.1	TSI=60.3
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	44	379	42	<10/3300	<10/475	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	44	124	<10	<10/1607	<10/102	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						NEI	NEI	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Red River at Terral

Sample Record	Times Visited	Station ID
December 1998 - Current	163	311100010190-001AT

Stream Data

County	Jefferson	Request Data By Email
Location	South of the Town of Terral on State Highway 81	
Latitude/Longitude	33.8786094, -97.93457247	
Planning Watershed	Lower Washita (8-digit HUC - 11130201)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	155	20.3	21.0	3.1/38.4	13.3/27.5	
In-Situ	Turbidity (NTU)	156	301	98	4/1210	43/444	61% of values>OWQS
In-Situ	pH (units)	154	8.23	8.25	6.73/9.11	8.02/8.47	
In-Situ	Dissolved Oxygen (mg/L)	155	10.50	10.26	3.42/20.13	7.97/12.85	
In-Situ	Hardness (mg/L)	156	825	812	168/2075	568/1059	
Minerals	Total Dissolved Solids (mg/L)	95	2971	2911	456/6840	1950/3804	
Minerals	Specific Conductivity (uS/cm)	154	5001	4972	157/14458	3493/6486	
Minerals	Chloride (mg/L)	156	1251	1227	151/4200	802/1600	
Minerals	Sulfate (mg/L)	156	618	606	96/2110	387/768	
Nutrients	Total Phosphorus (mg/L)	165	0.462	0.296	0.020/4.210	0.200/0.470	
Nutrients	Total Nitrogen (mg/L)	157	2.47	1.91	0.59/23.1	1.42/2.69	
Nutrients	Nitrate/Nitrite (mg/L)	157	0.48	0.22	<0.05/3.77	<0.05/0.72	
Nutrients	Chlorophyll A (mg/m^3)	74	77.3	62.3	<0.5/368	35.8/101.4	TSI=73.2
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	35	658	62	<10/3654	<10/700	Mean>OWQS
Bacteria	E. Coli (cfu/100ml)(*-Geo. Mn.)	35	124	33	<10/1106	<10/155	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	NS						U	U	S
Aesthetics												NEI
Agriculture					NS		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				NS								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish Consumption not supporting for Lead
Fish & Wildlife Propagation not supporting for Selenium
U = Assessment yielded undetermined supporting status

Salt Fork Of The Red River at Elmer

Sample Record	Times Visited	Station ID
November 1998 - Current	203	311600020010-002AT

Stream Data

County	Jackson	Request Data By Email
Location	West of the Town of Elmer near US 283	
Latitude/Longitude	34.47893211, -99.38286717	
Planning Watershed	Southwest (8-digit HUC -11120202)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	188	19.5	19.8	0.5/34.7	12.6/26.6	
In-Situ	Turbidity (NTU)	192	89	23	3/>1000	12/50	14% of values>OWQS
In-Situ	pH (units)	184	8.02	8.06	7.42/8.56	7.87/8.19	
In-Situ	Dissolved Oxygen (mg/L)	188	9.87	10.09	3.59/17.59	8.04/11.79	
In-Situ	Hardness (mg/L)	194	1565	1600	200/2513	1198/1988	
Minerals	Total Dissolved Solids (mg/L)	145	3065	3250	240/4860	2545/3791	41% of values>OWQS
Minerals	Specific Conductivity (uS/cm)	189	4028	4079	356/7648	3296/4790	
Minerals	Chloride (mg/L)	203	631	581	19/2097	472/839	55% of values>OWQS
Minerals	Sulfate (mg/L)	202	1298	1320	87/3485	985/1643	16% of values>OWQS
Nutrients	Total Phosphorus (mg/L)	163	0.115	0.077	<0.010/0.840	0.040/0.140	
Nutrients	Total Nitrogen (mg/L)	163	2.18	1.92	0.59/7.14	1.33/2.64	
Nutrients	Nitrate/Nitrite (mg/L)	164	1.07	0.77	0.05/5.93	0.22/1.47	
Nutrients	Chlorophyll A (mg/m^3)	70	23.9	18.1	<0.5/83.5	7.8/38.58	TSI=61.7
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	24	3290	530	<10/51800	100/1414	Mean>OWQS
Bacteria	E. Coli (cfu/100ml)(*-Geo. Mn.)	24	560	57	<10/5172	23/611	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	NS						U	U	S
Aesthetics												S
Agriculture					NS		NS	NS				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NS		S			S			
Fish Consumption				NS								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish Consumption not supporting for Lead
Fish & Wildlife Propagation and Private & Public Water Supply not supporting for Selenium
U = Assessment yielded undetermined supporting status

Salt Fork Of The Red River at Mangum

Sample Record	Times Visited	Station ID
October 2000 – September 2007	54	311600020010-001AT

Stream Data

County	Greer	Request Data By Email
Location	South of the Town of Mangum on State Highway 34	
Latitude/Longitude	34.85764987, -99.50925729	
Planning Watershed	Southwest (8-digit HUC -11120202)	

Parameters

	Parameter (Descriptions)	Mean	Median	Range	Comments
In-Situ	Water Temperature (C°)	18.6	18.9	2.7/37.0	
	Turbidity (NTU)	9	6	1/30	
	pH (units)	7.93	7.96	6.60/8.56	
	Dissolved Oxygen (ppm)	8.61	8.22	5.62/12.84	
	Hardness (ppm)	1532	1501	660/2380	
Minerals	Total Dissolved Solids (ppm)	2216	2115	799/8895	
	Specific Conductivity (uS)	3584	3238	1369/21559	
	Chloride (ppm)	278	270	63/464	
	Sulfate (ppm)	1254	1300	471.0/1800	
Nutrients	Total Phosphorus (ppm)	0.028	0.016	0.007/0.154	
	Nitrate/Nitrite (ppm)	0.26	0.21	0.05/0.97	
	Chlorophyll A (mg/m^3)	54.3	38.4	6.0/175.0	TSI=69.8
Bacteria	Fecal Coliform (cfu/100ml)(*-Geo. Mn.)	271.1*	310	<10/3400	
	Enterococcus (cfu/100ml)(*-Geo. Mn.)	240.7*	167	<10/11000	Mean>OWQS
	E. Coli (MPN/100ml)(*-Geo. Mean)	84.9*	74	<10/1785	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						NS	S	S
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Sampling and Assessment by the **Oklahoma Water Resources Board** – 3800 Classen Blvd, Oklahoma City, OK, 73118 – 405.530.8800 – http://www.owrb.ok.gov

Sager Creek at West Siloam Springs

Sample Record	Times Visited	Station ID
November 1998 – December 2012	163	121700060080-001AT

Stream Data

County	Delaware	Request Data By Email
Location	West of the Town of West Siloam Springs off US Highway 412	
Latitude/Longitude	36.20164298, -94.60538182	
Planning Watershed	Lower Arkansas (8-digit HUC - 11110103)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	110	17.4	17.2	5.9/29.2	12.3/22.1	
	Turbidity (NTU)	111	3	1	1/55	1/3	
	pH (units)	109	7.71	7.72	6.59/8.65	7.46/7.98	
	Dissolved Oxygen (mg/L)	110	9.11	8.75	4.66/15.35	8.05/10.2	21% of values<OWQS and 13% of values<alt OWQS
	Hardness (mg/L)	109	132	134	<10/198	120/146	
Minerals	Total Dissolved Solids (mg/L)	21	244	227	10/657	186/283	
	Specific Conductivity (uS/cm)	110	424	427	164/713	357/495	
	Chloride (mg/L)	100	36	34	<5/95	23/47	
	Sulfate (mg/L)	100	25	21	<5/64	16/29	
Nutrients	Total Phosphorus (mg/L)	114	1.117	1.040	0.012/3.965	0.644/1.501	
	Total Nitrogen (mg/L)	113	7.46	7.20	2.32/17.55	4.88/9.08	
	Nitrate/Nitrite (mg/L)	114	7.02	6.48	2.01/17.5	4.39/8.62	
	Chlorophyll A (mg/m^3)	54	1.6	0.7	<0.5/8.3	<.5/2.4	TSI=35.5
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	56	512	109	<10/9700	34/475	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	56	218	31	<10/4360	<10/98	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	NS	S						S	S	S
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Salt Fork of the Arkansas River at Ingersoll

Sample Record	Times Visited	Station ID
December 1998 - Current	157	621010010160-001AT

Stream Data

County	Alfalfa	Request Data By Email
Location	Northeast of the Town of Ingersoll on State Highway 58	
Latitude/Longitude	36.82018011, -98.35994081	
Planning Watershed	Upper Arkansas (8-digit HUC - 11060002)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	150	18.0	18.3	-0.8/36.7	9.9/26.9	
	Turbidity (NTU)	152	87	33	0.7/>1000	10/78	12% of values>OWQS
	pH (units)	148	7.93	7.94	7.15/8.42	7.82/8.11	
	Dissolved Oxygen (mg/L)	150	9.88	9.37	4.49/26.91	8.2/11.71	
	Hardness (mg/L)	149	889	878	432/1660	798/964	
Minerals	Total Dissolved Solids (mg/L)	81	1581	1560	520/3170	1475/1665	
	Specific Conductivity (uS/cm)	150	2032	2057	905/3688	1868/2231	
	Chloride (mg/L)	148	178	173	29/591	132/211	
	Sulfate (mg/L)	149	730	733	150/1130	662/800	
Nutrients	Total Phosphorus (mg/L)	150	0.096	0.054	<0.010/1.710	<.030/0.100	
	Total Nitrogen (mg/L)	149	1.15	0.86	0.3/18.71	0.71/1.13	
	Nitrate/Nitrite (mg/L)	150	0.37	0.35	<0.05/1.05	0.21/0.49	
	Chlorophyll A (mg/m^3)	57	7.3	4.4	<0.5/53.4	2.4/7.48	TSI=50.0
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	34	5045	1918	74/46080	532 /5000	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	34	1434	355	20/19863	121/1553	Mean>OWQS

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	S						U	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

U = Assessment yielded undetermined supporting status

Salt Fork of the Arkansas River at Tonkawa

Sample Record	Times Visited	Station ID
October 2000 - Current	141	621000010010-001AT

Stream Data

County	Kay	Request Data By Email
Location	South of the Town of Tonkawa on US 77	
Latitude/Longitude	36.67070374, -97.30951657	
Planning Watershed	Upper Arkansas (8-digit HUC -11060004)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	138	17.9	18.8	-0.9/36.6	9.29/26.8	
	Turbidity (NTU)	136	116	44	6/>1000	20/136	12% of values>OWQS
	pH (units)	138	8.17	8.19	7/9.45	8.00/8.40	
	Dissolved Oxygen (mg/L)	138	10.55	10.23	3.77/24.35	8.20/12.93	
	Hardness (mg/L)	137	470	471	126/930	376/550	
Minerals	Total Dissolved Solids (mg/L)	67	3535	2640	544/9680	1730/5630	
	Specific Conductivity (uS/cm)	138	5171	4148	563/15758	2819/6465	
	Chloride (mg/L)	132	1552	1220	223/5320	728/1955	
	Sulfate (mg/L)	132	280	264	49/637	213/344	
Nutrients	Total Phosphorus (mg/L)	132	0.239	0.221	0.060/0.980	0.150/0.300	
	Total Nitrogen (mg/L)	132	1.58	1.48	0.36/3.42	1.18/1.85	
	Nitrate/Nitrite (mg/L)	132	0.15	<0.05	<0.05/1.12	<0.05/0.15	
	Chlorophyll A (mg/m^3)	69	63.9	47.0	2.71/262	26.8/80.1	TSI=71.4
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	30	6728	984	20/161000	275/1925	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	31	434	41	<10/9804	<10/122	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	S						S	U	S
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

U = Assessment yielded undetermined supporting status

Sandy Creek at Eldorado

Sample Record	Times Visited	Station ID
November 1998 - Current	164	311600010040-001AT

Stream Data

County	Jackson	Request Data By Email
Location	Southwest of the Town of Eldorado on State Highway 6	
Latitude/Longitude	34.46433562, -99.66255838	
Planning Watershed	Southwest (8-digit HUC -11130101)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	153	18.8	19.8	2.74/33.2	13.22/24.98	
	Turbidity (NTU)	161	72	42	4/>1000	23/75	35% of values>OWQS
	pH (units)	150	7.75	7.73	7.09/8.44	7.57/7.91	
	Dissolved Oxygen (mg/L)	153	10.92	11.02	2.59/24.06	7.4/14.05	
	Hardness (mg/L)	158	2394	2527	115/3974	2207/2811	
Minerals	Total Dissolved Solids (mg/L)	96	6270	6561	372/7320	6222/6840	100% of values>OWQS
	Specific Conductivity (uS/cm)	153	8646	9257	282/11175	8642/9637	
	Chloride (mg/L)	159	2042	2120	13/3750	1900/2292	100% of Values>OWQS
	Sulfate (mg/L)	160	1906	2003	45/3680	1715/2198	94% of Values>OWQS
Nutrients	Total Phosphorus (mg/L)	159	0.123	0.078	<0.010/1.360	0.040/0.150	
	Total Nitrogen (mg/L)	159	3.65	3.63	0.54/8.38	3.09/4.2	
	Nitrate/Nitrite (mg/L)	160	2.29	2.28	0.11/4.86	1.47/3.1	
	Chlorophyll A (mg/m^3)	41	36.1	13.6	1.3/173	6.0/44.4	TSI=65.8
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	25	2737	900	<10/37300	132/2419.6	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	25	365	131	<10/3448	42/417.72	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	NS						NS	U	S
Aesthetics												NEI
Agriculture					NS		NS	NS				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NS		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Public & Private Water Supply not supporting for Selenium
Fish & Wildlife Propagation not supporting for Selenium
U = Assessment yielded undetermined supporting status

Sampling and Assessment by the **Oklahoma Water Resources Board** – 3800 Classen Blvd, Oklahoma City, OK, 73118 – 405.530.8800 – http://www.owrb.ok.gov

Skeleton Creek at Lovell

Sample Record	Times Visited	Station ID
December 1998 - Current	161	620910030010-001AT

Stream Data

County	Logan	Request Data By Email
Location	East of the Town of Lovell on State Highway 74	
Latitude/Longitude	36.06098714, -97.58584155	
Planning Watershed	Upper Arkansas (8-digit HUC -11050002)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	158	16.8	16.8	-1.36/33.9	7.5/25.0	
	Turbidity (NTU)	160	138	76	4/>1000	43/142	53% of values>OWQS
	pH (units)	158	8.24	8.21	7.51/9.08	8.03/8.43	
	Dissolved Oxygen (mg/L)	157	10.26	9.89	2.69/25.20	7.52/12.4	
	Hardness (mg/L)	158	378	403	100/690	286/472	
Minerals	Total Dissolved Solids (mg/L)	90	930	960	264/1950	760/1133	
	Specific Conductivity (uS/cm)	158	1617	1652	338/2904	1284/2004	
	Chloride (mg/L)	157	236	239	52/458	185/281	
	Sulfate (mg/L)	157	237	203	64/3200	155/244	
Nutrients	Total Phosphorus (mg/L)	158	0.527	0.464	0.080/1.630	0.330/0.710	
	Total Nitrogen (mg/L)	157	4.68	4.01	0.67/15.51	2.93/5.91	
	Nitrate/Nitrite (mg/L)	158	3.29	2.60	<0.05/14.55	1.44/4.57	
	Chlorophyll A (mg/m^3)	36	58.6	42.2	8.5/233	24/77.6	TSI=70.5
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	37	3017	510	20/41000	72/2420	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	37	686	110	<10/9804	26/474	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	NS						S	S	S
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes: *Fish & Wildlife Propagation not supporting for Selenium*

Sampling and Assessment by the **Oklahoma Water Resources Board** – 3800 Classen Blvd, Oklahoma City, OK, 73118 – 405.530.8800 – http://www.owrb.ok.gov

Spring Creek at Murphy

Sample Record	Times Visited	Station ID
November 1998 - Current	177	121600010290-001AT

Stream Data

County	Mayes	Request Data By Email
Location	South of the Town of Locust Grove off State Highway 82	
Latitude/Longitude	36.13104241, -95.19015604	
Planning Watershed	Grand (8-digit HUC -11070209)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	141	16.7	16.7	7.2/26.8	11.7/21.6	
	Turbidity (NTU)	141	2	1	1/15	1/2	
	pH (units)	140	7.50	7.50	6.80/8.59	7.26/7.75	
	Dissolved Oxygen (mg/L)	141	9.12	9.02	2.68/13.82	7.76/10.51	
	Hardness (mg/L)	141	87	80	<10/728	71.3/90	
Minerals	Total Dissolved Solids (mg/L)	30	110	99	<10/498	83/111	
	Specific Conductivity (uS/cm)	140	169	162	32/425	143/192	
	Chloride (mg/L)	114	<10	<10	<10/96	<10/<10	
	Sulfate (mg/L)	113	<10	<10	<10/40	<10/<10	
Nutrients	Total Phosphorus (mg/L)	148	0.020	0.013	<0.010/0.39	<0.010/0.02	
	Total Nitrogen (mg/L)	149	0.67	0.58	<0.05/3.03	0.4/0.79	
	Nitrate/Nitrite (mg/L)	150	0.52	0.45	<0.05/1.5	0.3/0.65	
	Chlorophyll A (mg/m^3)	86	1.0	<0.5	<0.5/29.5	0.22/0.64	TSI=30.3
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	56	156	17	<10/3000	10/106	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	56	97	<10	<10/4352	<10/27.53	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						S	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									S			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Spring River at Quapaw

Sample Record	Times Visited	Station ID
December 1998 - Current	175	121600070010-001AT

Stream Data

County	Ottawa	Request Data By Email
Location	East of the Town of Quapaw near State Highway 137	
Latitude/Longitude	36.93462871, -94.74614371	
Planning Watershed	Grand (8-digit HUC -11070207)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	156	17.4	17.4	1.0/32.1	10.4/24.3	
In-Situ	Turbidity (NTU)	156	35	15	1/581	9/25	32% of values>OWQS
In-Situ	pH (units)	155	7.87	7.91	6.64/8.92	7.68/8.05	
In-Situ	Dissolved Oxygen (mg/L)	156	9.03	8.93	0.16/14.9	7.24/10.69	
In-Situ	Hardness (mg/L)	155	158	165	17/258	143/180	
Minerals	Total Dissolved Solids (mg/L)	29	207	214	101/306	165/238	
Minerals	Specific Conductivity (uS/cm)	156	362	368	111/827	312/418	
Minerals	Chloride (mg/L)	109	14	12	<10/36	<10/16	
Minerals	Sulfate (mg/L)	108	35	34	18/75	27/41	
Nutrients	Total Phosphorus (mg/L)	163	0.197	0.171	0.050/0.640	0.130/0.250	
Nutrients	Total Nitrogen (mg/L)	163	2.36	2.32	0.49/4.78	1.81/2.84	
Nutrients	Nitrate/Nitrite (mg/L)	164	1.66	1.71	<0.05/3.37	1.11/2.16	
Nutrients	Chlorophyll A (mg/m^3)	82	8.7	7.7	1.41/37.4	3.54/12.1	TSI=51.8
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	43	1622	20	<10/33000	<10/180	
Bacteria	E. Coli (cfu/100ml)(*-Geo. Mn.)	43	288	20	<10/3448	<10/121	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	S						S	U	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									S			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

U = Assessment yielded undetermined supporting status

Verdigris River at Inola

Sample Record	Times Visited	Station ID
November 2000 - Current	97	121500020260-001AT

Stream Data

County	Rogers	Request Data By Email
Location	West of Inola on US 412	
Latitude/Longitude	36.16167837, -95.49637137	
Planning Watershed	Middle Arkansas (8-digit HUC -11070105)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	94	18.0	19.4	3.3/32.4	10.6/25.5	
	Turbidity (NTU)	92	65	40	3/891	21/64	25% of values>OWQS
	pH (units)	94	7.84	7.81	7.14/8.71	7.62/8.06	
	Dissolved Oxygen (mg/L)	93	9.06	8.23	3.71/18.73	7.15/10.76	
	Hardness (mg/L)	92	145	140	<10/301	124/161	
Minerals	Total Dissolved Solids (mg/L)	14	210	217	151/276	176/235	
	Specific Conductivity (uS/cm)	93	354	326	158/626	291/416	
	Chloride (mg/L)	59	26	18	5/145	11.8/37.3	
	Sulfate (mg/L)	59	46	42	20/129	34/53	
Nutrients	Total Phosphorus (mg/L)	93	0.228	0.173	0.070/1.040	0.120/0.280	
	Total Nitrogen (mg/L)	93	1.80	1.42	0.61/5.98	1.07/2.33	
	Nitrate/Nitrite (mg/L)	93	0.92	0.54	0.13/4.67	0.4/1.49	
	Chlorophyll A (mg/m^3)	59	10.7	6.8	1.2/76.7	3.91/14	TSI=53.9
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	25	5498	33	<10/81000	<10/230	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	25	514	15	<10/7270	<10/31	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	S						U	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

U = Assessment yielded undetermined supporting status

Verdigris River at Keetonville

Sample Record	Times Visited	Station ID
November 1998 – December 2012	131	121500030010-001AT

Stream Data

County	Rogers	View Site Data
Location	East of the Town of Keetonville on State Highway 20	
Latitude/Longitude	36.30724953, -95.69794268	
Planning Watershed	Middle Arkansas (8-digit HUC -11070105)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	113	17.5	18.0	1.8/32.0	10.3/25.7	
In-Situ	Turbidity (NTU)	115	68	31	3/919	20/70	
In-Situ	pH (units)	114	7.84	7.85	5.09/8.76	7.7/8.03	
In-Situ	Dissolved Oxygen (mg/L)	113	8.79	8.18	3.38/16.05	6.7/10.39	
In-Situ	Hardness (mg/L)	114	156	152	16/320	127/187	
Minerals	Total Dissolved Solids (mg/L)	35	226	214	88/556	169/261	
Minerals	Specific Conductivity (uS/cm)	111	372	353	21/1072	285/445	
Minerals	Chloride (mg/L)	102	22	15	<10/120	<10/31	
Minerals	Sulfate (mg/L)	102	46	41	13/173	33/53	
Nutrients	Total Phosphorus (mg/L)	116	0.110	0.086	0.022/0.590	0.058/0.131	
Nutrients	Total Nitrogen (mg/L)	115	0.88	0.78	0.28/2.53	0.63/1.02	
Nutrients	Nitrate/Nitrite (mg/L)	116	0.27	0.24	<0.05/1.20	0.07/0.37	
Nutrients	Chlorophyll A (mg/m^3)	53	8.5	5.4	<0.5/50.2	3/11.7	TSI=51.6
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	21	5094.2	41.0	<10/89000	15/359	Mean>OWQS
Bacteria	E. Coli (cfu/100ml)(*-Geo. Mn.)	21	592.2	20.0	<10/7915	<10/63	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						S	NEI	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Verdigris River at Lenepah

Sample Record	Times Visited	Station ID
December 1998 - Current	172	121510020010-001AT

Stream Data

County	Nowata	Request Data By Email
Location	East of the Town of Lenepah on State Highway 10	
Latitude/Longitude	36.85121639, -95.58531345	
Planning Watershed	Middle Arkansas (8-digit HUC -11070103)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	155	17.1	18.3	0.7/33.7	10.4/25.2	
In-Situ	Turbidity (NTU)	162	136	39	6/>1000	17/114	
In-Situ	pH (units)	156	7.85	7.84	4.98/8.78	7.65/8.09	
In-Situ	Dissolved Oxygen (mg/L)	155	9.04	8.37	3.83/18.49	6.92/10.82	
In-Situ	Hardness (mg/L)	158	164	165	<10/300	134/193	
Minerals	Total Dissolved Solids (mg/L)	40	209	211	92/327	171/249	
Minerals	Specific Conductivity (uS/cm)	154	368	373	<10/764	266/462	
Minerals	Chloride (mg/L)	106	20	14	<10/123	<10/22	
Minerals	Sulfate (mg/L)	105	36	32	12/97	27/42	
Nutrients	Total Phosphorus (mg/L)	163	0.167	0.099	0.020/1.220	0.060/0.180	
Nutrients	Total Nitrogen (mg/L)	162	1.29	1.03	<0.05/4.55	0.82/1.49	
Nutrients	Nitrate/Nitrite (mg/L)	163	0.39	0.35	<0.05/1.95	0.13/0.50	
Nutrients	Chlorophyll A (mg/m^3)	101	17.1	10.8	<0.5/173	4.9/22.4	TSI=58.5
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	35	11155	70	<10/321000	20/1553	Mean>OWQS
Bacteria	E. Coli (cfu/100ml)(*-Geo. Mn.)	35	799	63	<10/6294	30/1236	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	NS						S	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				NS								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish & Wildlife Propagation not supporting for Lead
Fish Consumption not supporting for Lead

Verdigris River at Wagoner

Sample Record	Times Visited	Station ID
September 1999 - Current	106	121500010200-001AT

Stream Data

County	Wagoner	Request Data By Email
Location	West of the Town of Wagoner on US 51	
Latitude/Longitude	35.95547322, -95.49477619	
Planning Watershed	Middle Arkansas (8-digit HUC -11070105)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	102	18.8	20.5	1.8/32.8	11.1/26.9	
	Turbidity (NTU)	104	53	32	6/383	19/64	13% of values>OWQS
	pH (units)	101	7.81	7.80	6.98/8.84	7.56/8.02	
	Dissolved Oxygen (mg/L)	101	8.91	8.14	4.57/16.44	7.26/10.66	
	Hardness (mg/L)	101	145	141	56/740	120/159	
Minerals	Total Dissolved Solids (mg/L)	52	195	192	108/304	176/209	
	Specific Conductivity (uS/cm)	101	332	325	200/616	276/364	
	Chloride (mg/L)	101	20	14	<10/143	11/23	
	Sulfate (mg/L)	100	44	41	18/132	33/50	
Nutrients	Total Phosphorus (mg/L)	101	0.156	0.127	0.050/0.570	0.100/0.190	
	Total Nitrogen (mg/L)	101	1.40	1.18	0.48/4.40	0.89/1.59	
	Nitrate/Nitrite (mg/L)	102	0.69	0.51	<0.05/3.02	0.27/0.87	
	Chlorophyll A (mg/m^3)	55	9.0	6.5	<0.5/39.5	3.7/13.2	TSI=52.2
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	28	4699	44	<10/82000	13/1100	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	28	258	41	<10/3130	<10/103	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	S						U	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

U = Assessment yielded undetermined supporting status

Walnut Bayou at Burneyville

Sample Record	Times Visited	Station ID
January 2013 - Current	26	311100010250-001AT

Stream Data

County	Love	Request Data By Email
Location	North of the Town of Burneyville on State Highway 96	
Latitude/Longitude	33.916559, -97.282427	
Planning Watershed	Lower Washita (8-digit HUC - 11130201)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	26	19.1	15.6	4.6/33.7	12/29.3	
In-Situ	Turbidity (NTU)	26	38	10	3/189	7/38	22% of values>OWQS
In-Situ	pH (units)	26	7.97	7.98	7.68/8.36	7.85/8.08	
In-Situ	Dissolved Oxygen (mg/L)	26	9.82	9.37	6.24/12.54	8.49/11.7	
In-Situ	Hardness (mg/L)	26	256	210	132/685	183/280	
Minerals	Total Dissolved Solids (mg/L)	26	351	345	229/428	311/398	
Minerals	Specific Conductivity (uS/cm)	26	619	650	372/767	537/701	
Minerals	Chloride (mg/L)	26	58	62	23/93	45/71	
Minerals	Sulfate (mg/L)	26	49	50	27/74	41/57	
Nutrients	Total Phosphorus (mg/L)	26	0.096	0.076	<0.010/0.220	0.030/0.200	
Nutrients	Total Nitrogen (mg/L)	26	0.84	0.67	0.32/1.9	0.52/0.92	
Nutrients	Nitrate/Nitrite (mg/L)	26	0.06	<0.05	<0.05/0.12	<0.05/<0.05	
Nutrients	Chlorophyll A (mg/m^3)	26	6.1	2.6	0.6/29.6	1.3/6.1	TSI=48.3
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	8	735	231	60/2420	75/1901	
Bacteria	E. Coli (cfu/100ml)(*-Geo. Mn.)	8	239	68	<10/816	<10/645	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	S						S	S	S
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									NEI			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Walnut Creek at Purcell

Sample Record	Times Visited	Station ID
February 2015 - Current	17	520610030010-001AT

Stream Data

County	McClain	Request Data By Email
Location	South of the Town of Purcell on US Highway 77	
Latitude/Longitude	34.99932, -97.366951	
Planning Watershed	Central (8-digit HUC - 11090202)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	9	21.3	21.3	13.8/33.2	15.3/26.2	
	Turbidity (NTU)	9	177	12	3/996	5/266	
	pH (units)	9	8.10	8.17	7.58/8.40	7.93/8.28	
	Dissolved Oxygen (mg/L)	9	8.59	8.62	6.46/10.80	7.27/10.03	
	Hardness (mg/L)	9	347	388	182/442	260/405	
Minerals	Total Dissolved Solids (mg/L)	8	416	448	290/476	335/466	
	Specific Conductivity (uS/cm)	9	742	838	367/906	550/892	
	Chloride (mg/L)	10	30	33	10/46	25/34	
	Sulfate (mg/L)	10	49	51	30/63	43/57	
Nutrients	Total Phosphorus (mg/L)	10	0.122	0.030	0.020/0.480	0.020/0.180	
	Total Nitrogen (mg/L)	10	0.86	0.45	0.27/2.56	0.34/1.4	
	Nitrate/Nitrite (mg/L)	10	0.14	0.06	0.03/0.38	0.05/0.25	
	Chlorophyll A (mg/m^3)	10	3.4	2.6	1.1/6.5	1.4/6.3	TSI=42.6
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	5	1214	816	121/2420	206/2420	
	E. Coli (cfu/100ml)(*-Geo. Mn.)	5	719	118	22/2420	23/1715	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NEI	NEI	NEI	NEI						NEI	NEI	NEI
Aesthetics												NEI
Agriculture					NEI		NEI	NEI				
Primary Body Contact Recreation									NEI			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				NEI								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Washita River at Alex

Sample Record	Times Visited	Station ID
January 2003 – Current	91	310810020010-001AT

Stream Data

County	Grady	Request Data By Email
Location	North of the Town of Alex on Highway 19C	
Latitude/Longitude	34.9261546, -97.77397966	
Planning Watershed	Lower Washita (8-digit HUC -11130303)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	88	17.7	17.7	0.3/33.6	10.8/25.3	
	Turbidity (NTU)	88	220	55	6/1520	24/213	18% of values>OWQS
	pH (units)	87	8.06	8.02	7.22/9.26	7.86/8.20	
	Dissolved Oxygen (mg/L)	88	9.59	8.84	4.59/15.76	7.67/11.73	
	Hardness (mg/L)	88	749	760	180/1668	508/955	
Minerals	Total Dissolved Solids (mg/L)	44	1118	1175	340/1670	809/1450	
	Specific Conductivity (uS/cm)	87	1570	1673	353/2690	1268/1941	
	Chloride (mg/L)	88	84	85	11/202	53/116	
	Sulfate (mg/L)	88	598	627	151/1260	460/755	
Nutrients	Total Phosphorus (mg/L)	88	0.334	0.169	<0.010/2.060	0.100/0.330	
	Total Nitrogen (mg/L)	88	1.75	1.35	0.68/5.77	1.13/2.1	
	Nitrate/Nitrite (mg/L)	88	0.32	0.090	<0.05/1.8	<0.05/0.54	
	Chlorophyll A (mg/m^3)	67	47.0	34.0	3.8/169	22.8/67.3	TSI=68.4
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	28	1318	148	<10/11000	49/2420	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	28	681	58	<10/9208	<10/899	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	S						U	S	S
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				NS								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish Consumption not supporting for Lead
U = Assessment yielded undetermined supporting status

Washita River at Anadarko

Sample Record	Times Visited	Station ID
February 1999 - Current	178	310830010010-001AT

Stream Data

County	Caddo	Request Data By Email
Location	North of the Town of Anadarko on US 281	
Latitude/Longitude	35.08448153, -98.24330303	
Planning Watershed	Lower Washita (8-digit HUC -11130302)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	150	18.4	19.8	-0.1/35	9.9/26.2	
	Turbidity (NTU)	152	166	35	4/>1000	16/109	
	pH (units)	148	8.10	8.12	7.01/8.8	7.94/8.27	
	Dissolved Oxygen (mg/L)	150	10.01	9.79	1.33/19.66	8.03/12.07	
	Hardness (mg/L)	149	845	880	185/1580	596/1058	
Minerals	Total Dissolved Solids (mg/L)	88	1298	1435	150/2260	945/1686	
	Specific Conductivity (uS/cm)	149	1720	1879	144/2925	1395/2098	
	Chloride (mg/L)	156	86	84	5/233	52/113	
	Sulfate (mg/L)	155	690	747	56/1280	484/860	
Nutrients	Total Phosphorus (mg/L)	156	0.277	0.173	0.030/3.300	0.090/0.270	
	Total Nitrogen (mg/L)	155	1.59	1.34	0.52/7.1	0.92/1.79	
	Nitrate/Nitrite (mg/L)	156	0.44	0.24	<0.05/2.28	<0.05/0.71	
	Chlorophyll A (mg/m^3)	89	40.3	24.7	3.5/597.0	13.6/44.3	TSI=66.8
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	36	1400	435	<10/12997	100/2315	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	36	514	113	<10/2723	<10/979	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						NS	U	NS
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

U = Assessment yielded undetermined supporting status

Washita River at Cordell

Sample Record	Times Visited	Station ID
November 1998 - Current	183	310830030010-001AT

Stream Data

County	Washita	Request Data By Email
Location	East of the Town of Cordell on State Highway 152	
Latitude/Longitude	35.29115498, -98.83671818	
Planning Watershed	West Central (8-digit HUC -11130302)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	161	17.4	18.9	-1.0/35.3	8.8/24.8	
	Turbidity (NTU)	159	86	21	3/>1000	8/68	
	pH (units)	158	8.02	8.02	5.93/9.02	7.83/8.20	
	Dissolved Oxygen (mg/L)	159	10.05	9.68	1.95/22.10	7.78/12.07	
	Hardness (mg/L)	161	1323	1334	415/2835	1124/1532	
Minerals	Total Dissolved Solids (mg/L)	101	2130	2170	450/4150	1895/2464	11% of values>OWQS
	Specific Conductivity (uS/cm)	161	2481	2494	348/5634	2139/2840	
	Chloride (mg/L)	160	122	93	<10/862	63/164	15% of values>OWQS
	Sulfate (mg/L)	160	1140	1160	223/1880	1000/1318	44% of values>OWQS
Nutrients	Total Phosphorus (mg/L)	161	0.285	0.205	0.050/3.090	0.140/0.350	
	Total Nitrogen (mg/L)	160	1.98	1.83	0.70/8.68	1.48/2.39	
	Nitrate/Nitrite (mg/L)	161	0.88	0.80	<0.05/3.09	0.41/1.30	
	Chlorophyll A (mg/m^3)	51	25.9	14.0	1.8/114.0	5.8/22.4	TSI=62.5
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	48	1836	313	<10/24192	99/1450	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	48	1613	74	<10/24192	20/264	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						NS	S	NEI
Aesthetics												NEI
Agriculture					NS		NS	NS				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Sampling and Assessment by the **Oklahoma Water Resources Board** – 3800 Classen Blvd, Oklahoma City, OK, 73118 – 405.530.8800 – http://www.owrb.ok.gov

Washita River at Durwood

Sample Record	Times Visited	Station ID
November 1998 - Current	131	310800020010-001AT

Stream Data

County	Carter	Request Data By Email
Location	Northwest of the Town of Durwood on US 177	
Latitude/Longitude	34.23354963, -96.97638301	
Planning Watershed	Lower Washita (8-digit HUC -11130303)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	124	19.8	20.3	3.8/33.7	13.7/27	
	Turbidity (NTU)	121	270	64	4/>1000	38/468	
	pH (units)	123	8.09	8.07	7.10/8.86	7.91/8.25	
	Dissolved Oxygen (mg/L)	124	9.32	8.95	3.45/19.04	7.42/11	
	Hardness (mg/L)	123	531	533	187/910	401/670	
Minerals	Total Dissolved Solids (mg/L)	58	863	908	258/1604	624/1131	
	Specific Conductivity (uS/cm)	123	1205	1268	355/2037	928/1552	
	Chloride (mg/L)	124	78	78	<10/163	46/112	
	Sulfate (mg/L)	125	370	351	26/787	260/511	
Nutrients	Total Phosphorus (mg/L)	125	0.356	0.162	<0.010/4.180	0.110/0.380	
	Total Nitrogen (mg/L)	124	1.58	1.13	0.33/7.42	0.78/2.08	
	Nitrate/Nitrite (mg/L)	125	0.24	<0.05	<0.05/1.04	<0.05/0.39	
	Chlorophyll A (mg/m^3)	60	29.9	19.6	<0.5/177	10.6/34.1	TSI=63.9
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	33	401	148	<10/1900	34/550	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	33	365	20	<10/8164	<10/220	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						U	NEI	S
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			
Fish Consumption				NS								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish Consumption not supporting for Lead
U = Assessment yielded undetermined supporting status

Washita River at McClure

Sample Record	Times Visited	Station ID
November 1998 - Current	105	310840010010-003RS

Stream Data

County	Custer	Request Data By Email
Location	North of the Town of McClure off of State Highway 33	
Latitude/Longitude	35.656289, -99.306207	
Planning Watershed	West Central (8-digit HUC -11130301)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	79	16.9	19.1	-0.8/33.3	8.6/23.9	
	Turbidity (NTU)	82	83	21	1/>1000	8/63	
	pH (units)	79	8.12	8.10	7.46/9.11	7.96/8.25	
	Dissolved Oxygen (mg/L)	78	9.80	10.01	3.77/19.46	8.31/11.27	16% of values<OWQS and 16% of values<alt OWQS
	Hardness (mg/L)	80	1142	1115	250/2255	905/1376	
Minerals	Total Dissolved Solids (mg/L)	68	1597	1635	340/2760	1248/2008	
	Specific Conductivity (uS/cm)	79	1909	1963	561/2903	1653/2344	
	Chloride (mg/L)	83	57	57	<10/409	36/69	
	Sulfate (mg/L)	83	878	873	170/1760	630/1150	
Nutrients	Total Phosphorus (mg/L)	82	0.159	0.066	<0.010/1.710	0.040/0.200	
	Total Nitrogen (mg/L)	83	1.62	1.24	0.57/5.49	0.91/1.86	
	Nitrate/Nitrite (mg/L)	83	0.53	0.27	<0.05/4.96	0.06/0.44	
	Chlorophyll A (mg/m^3)	47	24.9	8.6	1.7/318	3.6/18.6	TSI=62.1
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	29	1342	1043	63/5172	165/2420	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	29	1693	387	<10/24192	86/2420	Mean>OWQS

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	NS	S						NS	U	NS
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				S		S			S			
Fish Consumption				NS								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

Fish Consumption not supporting for Lead
U = Assessment yielded undetermined supporting status

Washita River at Pauls Valley

Sample Record	Times Visited	Station ID
December 1998 - Current	169	310810010010-001AT

Stream Data

County	Garvin	Request Data By Email
Location	East of the Town of Pauls Valley on county road E1570	
Latitude/Longitude	34.73848401, -97. 16538162	
Planning Watershed	Lower Washita (8-digit HUC -11130303)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	156	18.5	19.3	0.1/33.0	11.0/27.0	
	Turbidity (NTU)	158	266	69	3/>1000	41/402	16% of values>OWQS
	pH (units)	157	8.08	8.10	7.01/8.74	7.96/8.22	
	Dissolved Oxygen (mg/L)	156	9.47	9.24	3.83/22.13	7.55/10.95	
	Hardness (mg/L)	156	631	638	171/1210	472/804	
Minerals	Total Dissolved Solids (mg/L)	94	1018	1025	250/2577	731/1323	
	Specific Conductivity (uS/cm)	158	1407	1490	304/2237	1097/1785	
	Chloride (mg/L)	162	78	73	10/238	46/104	
	Sulfate (mg/L)	159	499	524	94/1240	333/655	
Nutrients	Total Phosphorus (mg/L)	169	0.373	0.172	0.030/3.160	0.100/0.400	
	Total Nitrogen (mg/L)	159	1.71	1.31	0.46/7.20	0.93/2.10	
	Nitrate/Nitrite (mg/L)	161	0.27	<0.05	<0.05/1.71	<0.05/0.50	
	Chlorophyll A (mg/m^3)	76	51.2	28.6	1.6/783	17.9/52.8	TSI=69.2
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	32	1056	173	<10/10462	46/1965	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	32	339	31	<10/3873	<10/180	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	S						U	NEI	S
Aesthetics												NEI
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

S = Fully Supporting
NS = Not Supporting
NEI = Not Enough Information

Notes

U = Assessment yielded undetermined supporting status

West Cache Creek at Taylor

Sample Record	Times Visited	Station ID
November 1998 - Current	146	311310020010-001AT

Stream Data

County	Cotton	Request Data By Email
Location	North of the Town of Taylor on State Highway 5B	
Latitude/Longitude	34.2095473, -98.33061891	
Planning Watershed	Beaver-Cache (8-digit HUC - 11130203)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	125	19.3	21.4	2.6/35.2	10.2/27.2	
	Turbidity (NTU)	129	138	43	4/>1000	17/89	25% of values>OWQS
	pH (units)	124	8.04	8.06	6.51/8.78	7.84/8.25	
	Dissolved Oxygen (mg/L)	125	8.63	8.71	3.71/15.30	6.64/10.42	
	Hardness (mg/L)	129	261	209	78/790	142/330	
Minerals	Total Dissolved Solids (mg/L)	74	567	416	144/2260	250/712	100% of values>OWQS
	Specific Conductivity (uS/cm)	124	1084	860	137/4559	515/1359	
	Chloride (mg/L)	132	203	134	<10/1010	61/270	
	Sulfate (mg/L)	132	85	62	18/300	42/112	
Nutrients	Total Phosphorus (mg/L)	132	0.207	0.136	0.030/1.200	0.1/0.260	
	Total Nitrogen (mg/L)	132	1.16	0.77	0.22/6.33	0.58/1.40	
	Nitrate/Nitrite (mg/L)	132	0.29	<0.05	<0.05/2.91	<0.05/0.43	
	Chlorophyll A (mg/m^3)	37	18.5	16.7	1.1/55.1	5.4/25.4	TSI=58.2
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	30	993	350	<10/10000	190/821	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	30	414	145	<10/2420	60/488	Mean>OWQS

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	NS	S	S	S						S	NEI	S
Aesthetics												NEI
Agriculture					S		S	NS				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

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Notes

Wolf Creek at Ft. Supply

Sample Record	Times Visited	Station ID
November 1998 - Current	150	720500030010-001AT

Stream Data

County	Woodward	Request Data By Email
Location	East of the Town of Ft. Supply off US 270	
Latitude/Longitude	36.44954552, -99.58872133	
Planning Watershed	Panhandle (8-digit HUC -11100203)	

Parameters

	Parameter (Descriptions)	n	Mean	Median	Min./Max	p25/p75	Comments
In-Situ	Water Temperature (°C)	116	17.8	19.0	-0.1/34	11.2/25.1	
	Turbidity (NTU)	117	21	14	2/81	9/30	
	pH (units)	113	8.16	8.18	7.33/9	8.03/8.31	
	Dissolved Oxygen (mg/L)	115	10.06	10.03	0.12/26.42	8.59/11.18	
	Hardness (mg/L)	117	317	305	163/615	279/342	
Minerals	Total Dissolved Solids (mg/L)	56	606	608	424/920	575/634	
	Specific Conductivity (uS/cm)	115	967	961	464/1835	898/1033	
	Chloride (mg/L)	117	132	129	89/186	122/143	
	Sulfate (mg/L)	117	103	103	48/164	90/117	
Nutrients	Total Phosphorus (mg/L)	125	0.057	0.042	<0.010/0.230	0.030/0.070	
	Total Nitrogen (mg/L)	118	1.23	1.22	0.42/2.83	0.92/1.52	
	Nitrate/Nitrite (mg/L)	118	0.71	0.69	<0.05/2.2	0.40/0.95	
	Chlorophyll A (mg/m^3)	12	7.3	4.3	0.9/21.4	2.4/11.6	TSI=45.1
Bacteria	Enterococcus (cfu/100ml)(*-Geo. Mn.)	23	1156	100	<10/10000	20/900	Mean>OWQS
	E. Coli (cfu/100ml)(*-Geo. Mn.)	23	185	74	<10/2282	30/85	

Beneficial Uses

Click to learn more about Beneficial Uses	Turbidity	pH	Dissolved Oxygen	Metals	Sulfates	Nitrates	Chlorides	Total Dissolved Solids	Bacteria	Bio. Fish	Bio. BMI	Sediment
Fish & Wildlife Propagation	S	S	S	S						S	S	S
Aesthetics												S
Agriculture					S		S	S				
Primary Body Contact Recreation									NS			
Public & Private Water Supply				NEI		NEI			NEI			
Fish Consumption				S								

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Notes