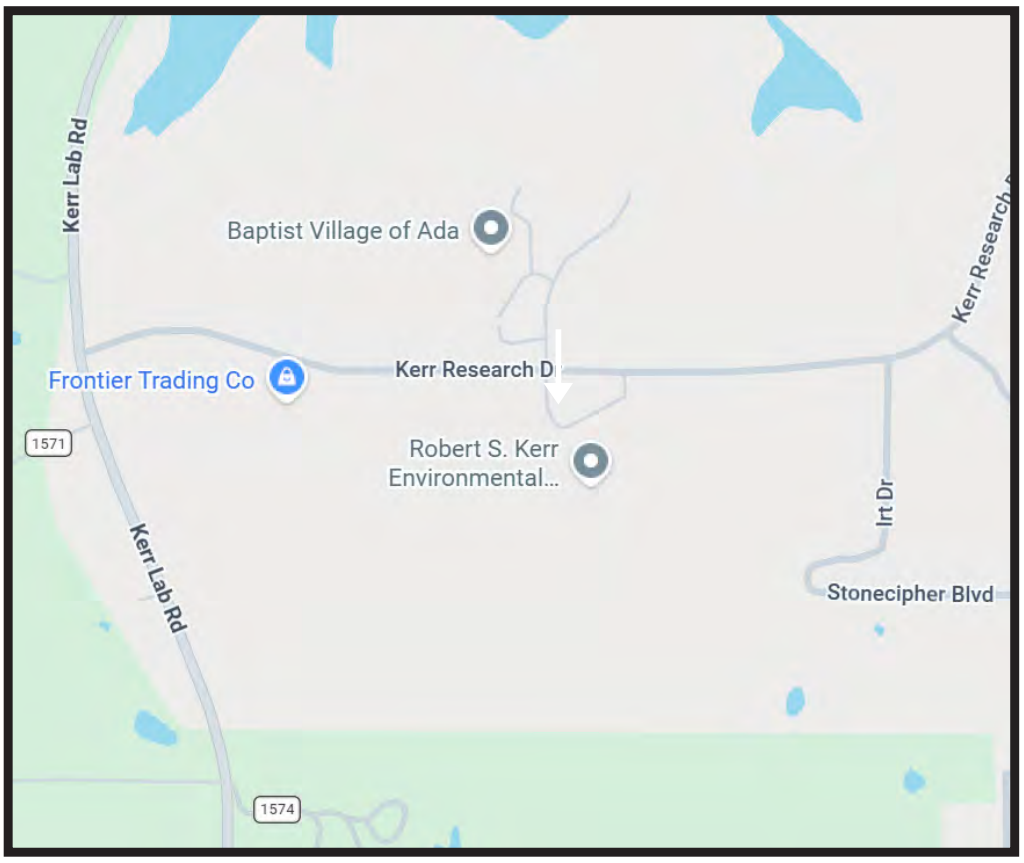
You are Invited to an

Environmental Quality Board Meeting & Public Forum

Tuesday, November 10, 2026 @ 9:30 a.m.

Robert S. Kerr Environmental Research Center
919 Kerr Research Dr.
Ada, Oklahoma 74820

The Board cannot act or comment on individual proceedings such as an enforcement action or a pending permit.



For more information call the Oklahoma Department of Environmental Quality at (405) 702-7100.

Public Forum

Bring your comments to
Environmental Quality Board Members
on Tuesday, November 10, 2026 @ 9:30 a.m. at
Robert S. Kerr Environmental Research Center
919 Kerr Research Dr.
Ada, Oklahoma 74820

The public forum is your opportunity to comment and let us know if we are meeting your needs and providing timely responses to environmental issues. Sign-up on the forum register when you come to the Board meeting. You will be allocated time to speak to the Board about air quality, water quality, land protection, general environmental issues and other activities of the DEQ.

If you are unable to attend, but would like to submit comments about environmental issues, please contact Quiana Fields at the Oklahoma Department of Environmental Quality, P.O. Box 1677, Oklahoma City, Oklahoma 73101-1677.
Fax: 405/702-7101
Phone: 405/702-7152

The Board cannot act or comment on individual proceedings such as an enforcement action or a pending permit.

Please subscribe to https://public.govdelivery.com/accounts/OKDEQ/subscriber/new to continue to get these notifications for future Board meetings.

REGULAR MEETING AGENDA
DEPARMENT OF ENVIRONMENTAL QUALITY
OKLAHOMA ENVIRONMENTAL QUALITY BOARD

A Public Meeting: 9:30 a.m., Tuesday, November 10, 2026
Robert S. Kerr Environmental Research Center
919 Kerr Research Dr
Ada, OK 74820

A copy of this notice and agenda has been posted in a prominent location at the offices of the Oklahoma Department of Environmental Quality (DEQ), 707 N. Robinson, Oklahoma City, Oklahoma, on November 6, 2026, at 4:30 p.m. A copy of this agenda is also available on DEQ's website at www.deq.ok.gov.

Please turn off cell phones

1. **Call to Order** – Shannon Ferrell, Chair

2. **Announcements** – Shannon Ferrell, Chair

   Announcements will include the introduction of any new Board members or special meeting guests, as well as safety information for the current meeting venue and any other general housekeeping matters of interest to the Board. These announcements are for informational purposes only, and no action by the Board is required.

3. **Roll Call –** Quiana Fields, Secretary, Board & Councils

4. **Approval of Minutes** of the September 9, 2026, Regular Meeting

5. **Executive Director's Report –** Robert Singletary, Executive Director, DEQ

   Mr. Singletary's report may include significant agency accomplishments and activities since the last Board meeting, as well as information pertaining to budgetary and/or legislative matters. This report is for informational purposes only, and no action by the Board is required.

6. **Budget Update and Financial Overview (FY 2027) –** Kathy Aebischer, Director of Administrative Services

   Ms. Aebischer' s report will include an update and overview of DEQ's current budget for Fiscal Year 2027. This report is for informational purposes only. Although discussion may occur, no action by the Board is required.

7. **Rulemaking - OAC 252:606 – Oklahoma Pollutant Discharge Elimination System**
   Subchapter 1 – Introduction [AMENDED]
   Subchapter 6 – Point Source Discharges [AMENDED]

Appendix L – Equations for Implementation of Numerical Criteria for Toxic Substances to Protect the Fish and Wildlife Propagation Beneficial Use [AMENDED]

DEQ is proposing to add and modify definitions to Subchapter 1, as well as adding language to SUBCHAPTER 6 for determination of reasonable potential for selenium and changing language to disallow monitoring frequency reductions for a parameter when the receiving water is impaired for that parameter. New equations are proposed to be added to Appendix L consistent with the proposed changes to sections in Subchapters 1 and 6.

- Presentation – George Russell, IV, DEQ Water Quality Director
- Questions and discussion by the Board
- Comments by the public
- Discussion and possible action by the Board, which may include roll call vote(s)

8. **Rulemaking - OAC 252:730 – Oklahoma's Water Quality Standards**
   Subchapter 1 – General Provisions [AMENDED]
   Subchapter 3 – Antidegradation Requirements [AMENDED]
   Subchapter 5 – Surface Water Quality Standards [AMENDED]
   Subchapter 7 – Groundwater Quality Standards [AMENDED]
   Appendix A – Designated Beneficial Uses of Surface Waters [AMENDED]
   Appendix E – Requirements for Development of Site Specific Criteria for Certain Parameters [AMENDED]
   Appendix F – Statistical Values of the Historical Data for Mineral Constituents of Water Quality (Beginning October 1976 Ending September 1983, Except as Indicated) [AMENDED]
   Appendix G – Numerical Criteria to Protect Beneficial Uses [AMENDED]
   Appendix H – Beneficial Use Designations for Certain Limited Areas of Groundwater [AMENDED]

   DEQ is proposing to comply with the Water Quality Standards Triennial Review and includes the following updates: add, remove and/or modify certain definitions; update Primary Body Contact Recreation by replacing confidence intervals with geometric mean and statistical threshold values, applicable to both E. coli and Enterococci; updating Secondary Body Contact Recreation to add numeric criteria for E. coli and enterococci based on EPA's water ingestion formula; adding language allowing the use of the copper biotic ligand model for development of copper site-specific criteria; adding language allowing for the potential use of multiple regression model for the creation of copper site-specific criteria; requiring the use of a fish tissue study for selenium site-specific criteria; removal of site-specific metals criteria that were not approved by EPA; removal of segment averages that were not approved by EPA; recalculation of certain criteria and the addition of Aquatic Life and Human Health criteria values based on EPA's recommended values; and, including an updated version of Appendix H that was missing in the most recent version of Chapter 730.

   - Presentation – George Russell, IV, DEQ Water Quality Director
   - Questions and discussion by the Board

- Comments by the public
- Discussion and possible action by the Board, which may include roll call vote(s)

9. **Rulemaking - OAC 252:740 – Implementation of Oklahoma's Water Quality Standards**

    Subchapter 1 – General Provisions [AMENDED]
    Subchapter 3 – Implementation of Narrative Toxics Criteria to Protect Aquatic Life Using Whole Effluent Toxicity (WET) Testing [AMENDED]
    Subchapter 5 – Implementation of Numerical Criteria to Protect Fish and Wildlife From Toxicity Due to Conservative Substances [AMENDED]
    Subchapter 9 – Implementation of Criteria to Protect the Agriculture Beneficial Use [AMENDED]
    Subchapter 11 – Implementation of Temperature Criteria to Protect Fish and Wildlife Propagation Beneficial Use [AMENDED]
    Subchapter 13 – Implementation of Antidegradation Policy [AMENDED]
    Subchapter 15 – Use Support Assessment Protocols [AMENDED]
    Subchapter 17 – Implementation of Dissolved Oxygen Criteria to Protect Fish and Wildlife Propagation [AMENDED]

    DEQ is proposing to comply with the Water Quality Standards Triennial Review and includes the following updates: add, remove and/or modify certain definitions; update reasonable potential to allow the use of a fish tissues study to confirm the need for a water quality-based effluent limit; update Assessment of Fish and Wildlife Propagation support to add fish tissue criteria as the preferred method for assessing waterbodies for selenium, with water column criteria being used if fish tissue is unavailable; and, adding Assessment of Secondary Body Contact Recreation support to add criteria values for assessment.

    - Presentation – George Russell, IV, DEQ Water Quality Director
    - Questions and discussion by the Board
    - Comments by the public
    - Discussion and possible action by the Board, which may include roll call vote(s)

10. **Consideration of and Action on the Annual Environmental Quality Report**

    The Oklahoma Environmental Quality Code requires DEQ to prepare an "Oklahoma Environmental Quality Report" and to submit it to the Governor, Speaker of the House, and Senate President Pro Tempore by January 1st of each year. The statutorily prescribed purpose of the report is to outline the DEQ's annual funding needs for providing environmental services within its jurisdiction, reflect any new federal mandates, and summarize DEQ-recommended statutory changes. The Environmental Quality Board is authorized to review, amend (as necessary), and approve the report.

    - Presentation – Madison Miller, Deputy Executive Director, DEQ
    - Questions and discussion by the Board

- Questions, comments and discussion by the public
- Discussion and possible action by the Board, which may include a roll call vote on approval

11. **Petition to Initiate Rulemaking: Outstanding Resource Water Designations** – Tyler Powell, Blue River Foundation of Oklahoma

    A Petition to Initiate Rulemaking has been filed by the Blue River Foundation requesting that the EQB modify OAC 252:730 Appendix A to change the designation of two segments of the Blue River (Waterbody ID Nos. 410600020010_10 and 410600020010_20). The Petition proposes to change the designations from "High Quality Waters" to "Outstanding Resource Waters.

    - Presentation – Tyler Powell, Blue River Foundation.
    - Questions and discussion by the Board
    - Discussion and possible action by the Board, which may include a vote to approve or deny the petition.

12. **New Business** (Any matter not known about and which could not have been reasonably foreseen prior to the posting of agenda)

13. **Next Meeting**

    The next regular meeting of the Environmental Quality Board is scheduled to be held on January 20, 2026, at 9:30 a.m., at the offices of the Oklahoma Department of Environmental Quality (DEQ), 707 N. Robinson, Oklahoma City, Oklahoma, 73102.

14. **Adjournment**

Public Forum – Following Adjournment – The Board meets several times a year at different locations across the State to hear the views and concerns of all Oklahomans about environmental issues. This opportunity is informal, and we invite you to follow the instructions provided during and at the conclusion of the Board meeting if you would like to speak during the forum. If necessary to accommodate the public, the Board Chair may decide to conduct the Forum prior to the Call to Order.

Should you desire to attend but have a disability and need an accommodation, please notify the DEQ three days in advance at 405-702-7100. For hearing impaired, the TDD Relay Number is 1-800-722-0353 for TDD machine use only.

DRAFT MINUTES
ENVIRONMENTAL QUALITY BOARD
SEPTEMBER 9, 2026
GUYMON CITY HALL
GUYMON, OKLAHOMA

Official EQB Approved
On November 10, 2026

Notice of Public Meeting – The Environmental Quality Board (Board) convened for a Regular Meeting at 9:30 a.m., at the Guymon City Hall, 424 N. Main Street, Guymon, Oklahoma. This meeting was held in accordance with 25 O.S. Section 311, with notice of the meeting given to the Secretary of State on December 3, 2025. The agenda was mailed to interested parties on August 31, 2026 and was posted at the DEQ and the facility on September 8, 2026. Dr. Shannon Ferrell, Chair, called the meeting to order. Also, he went over safety and housekeeping rules. Ms. Fields called roll and a quorum was confirmed.

MEMBERS PRESENT	DEQ STAFF PRESENT
Katlin Esteph	Rob Singletary, Executive Director
Shannon Ferrell	Madison Miller, Deputy Executive Director
Jimmy Kinder	Jonathan Allen, General Counsel
Tim Munson	Ryan McIntosh, Legislative Liaison
Kim Peterson	Kendal Stegmann, Air Quality Division
Sheldon Tatum	Mark Hildebrand, Chief of Staff
Alexandria Kindrick	Gary Henry, Deputy General Counsel
Brandi Lowry	Skylar McElhaney, Office of Continuous Improvement
	Kathy Aebischer, Administrative Services Division
	Kelly Dixon, Land Protection Division
	George Russell, Water Quality Division
	Kole Kennedy, Land Protection Division
	Aron Samwel, Land Protection Division
	Steven Thibodeau, Water Quality Division
	Mark Stasyszen, Water Quality Division
	Dustin Davidson, State Environmental Laboratory Services
	Travis Mensik, Environmental Complaints & Local Services
	Rachel Hildebrand, Legal Services Division
	Malcolm Zachariah, Air Quality Division
	Quiana Fields, Office of the Executive Director/Board & Council Secretary

MEMBERS ABSENT	OTHERS PRESENT
Steve Mason	Heather Poole, Office of the Attorney General
Rich Auer	Michelle Wynn, Office of the Secretary of Energy & Environment
Ken Hirshey	Jenny Longley, Court Reporter
Pete Schultze	Bud Ground, Environmental Federation of Oklahoma
Mike Paque	

Approval of Minutes – Dr. Ferrell called for a motion to approve the June 9, 2026 Regular Meeting minutes. Mr. Munson moved to approve and Ms. Esteph made the second.

transcript pages 7 – 8

Katlin Esteph	Yes	Tim Munson	Yes
Jimmy Kinder	Yes	Kim Peterson	Yes
Alexie Kindrick	Yes	Sheldon Tatum	Yes
Brandi Lowry	Yes	Shannon Ferrell	Yes

Executive Director's Report – Mr. Rob Singletary, Executive Director of the DEQ, discussed agency accomplishments and activities since the last Board meeting, as well as information pertaining to budgetary and/or legislative or related matters.

transcript pages 8 – 33

Land Protection Division Update and Proposed Resolution – Ms. Aron Samwel, Environmental Programs Manager of the LPD gave a presentation on the Brownfields program. Following the presentation, Ms. Kelly Dixon, Division Director of LPD, gave a presentation on the annual solid waste fees report. A resolution has been proposed for the Board's consideration and action on annual solid waste fees report. Following a question by the Board and none by the public, Dr. Ferrell called for a motion. Mr. Tatum moved to approve, and Mr. Munson made the second. Mr. Kinder mentioned we need an amendment to accept the report, Dr. Ferrell asked Mr. Tatum if he would accept the report and Mr. Tatum accepted.

transcript pages 34 – 53

Katlin Esteph	Yes	Tim Munson	Yes
Jimmy Kinder	Yes	Kim Peterson	Yes
Alexie Kindrick	Yes	Sheldon Tatum	Yes
Brandi Lowry	Yes	Shannon Ferrell	Yes

Petition to Initiate Rulemaking: Used Tires Recycling Compensation – Dr. Ferrell called upon, Mr. Andy Skeith, RTR Environmental. Mr. Skeith presented a petition to initiate rulemaking that was filed by RTR Environmental requesting that the EQB modify OAC 252:515-21-73 to allow multiple used tire facilities under common ownership and control to combine reporting into a single report and also to submit a combined request for compensation under the capital reimbursement tier (27A O.S.§ 2-11-401.4 (E)). Following questions by the Board and none by the public, Dr. Ferrell called for a motion to accept the petition to initiate rulemaking. Mr. Munson moved to approve and Mr. Tatum made the second.

transcript pages 53 – 61

Katlin Esteph	Yes	Tim Munson	Yes
Jimmy Kinder	Yes	Kim Peterson	Yes
Alexie Kindrick	Yes	Sheldon Tatum	Yes
Brandi Lowry	Yes	Shannon Ferrell	Yes

DEQ Operational Budget Request (FY 2028) – Ms. Kathy Aebischer, Division Director of ASD, gave a presentation on the DEQ budget requests to the Governor through the Office of Management and Enterprise Services (OMES) require approval of the Board. The operational budget request for State Fiscal Year (SFY) 2028 (beginning July 1, 2027) must be submitted to OMES by October 1st of this year. Hearing no questions or comments by the Board or the public, Dr. Ferrell called for a motion. Ms. Kindrick moved to approve and Mr. Kinder made the second.

transcript pages 62 – 65

Katlin Esteph	Yes	Tim Munson	Yes
Jimmy Kinder	Yes	Kim Peterson	Yes
Alexie Kindrick	Yes	Sheldon Tatum	Yes
Brandi Lowry	Yes	Shannon Ferrell	Yes

Budget Update and Financial Overview (FY 2027) – Ms. Aebischer gave a presentation on the Fiscal Year 2027 budget update. No action by the Board is required.

transcript pages 65 – 77

Dr. Ferrell called for a five-minute break after Item #9. Afterwards he called the meeting back to order.

transcript page 77

Rulemaking – OAC 252:606 Oklahoma Pollutant Discharge Elimination System
Subchapter 1 – Introduction [AMENDED]
Subchapter 6 – Point Source Discharges [AMENDED]
Appendix L – Equations for Implementation of Numerical Criteria for Toxic Substances to Protect the Fish and Wildlife Propagation Beneficial Use [AMENDED] – Dr. Ferrell called upon, Mr. George Russell, Division Director of the WQD. Mr. Russell stated the DEQ is proposing to add and modify definitions to Subchapter 1, as well as adding language to SUBCHAPTER 6 for determination of reasonable potential for selenium and changing language to disallow monitoring frequency reductions for a parameter when the receiving water is impaired for that parameter. New equations are proposed to be added to Appendix L consistent with the proposed changes to sections in Subchapters 1 and 6. This presentation is for informational purposes only and no action by the Board is required.

Rulemaking – OAC 252:730 Oklahoma's Water Quality Standards
Subchapter 1 – General Provisions [AMENDED]
Subchapter 3 – Antidegradation Requirements [AMENDED]
Subchapter 5 – Surface Water Quality Standards [AMENDED]
Subchapter 7 – Groundwater Quality Standards [AMENDED]
Appendix A – Designated Beneficial Uses of Surface Waters [AMENDED]
Appendix E – Requirements for Development of Site Specific Criteria for Certain Parameters [AMENDED]
Appendix F – Statistical Values of the Historical Data for Mineral Constituents of Water Quality (Beginning October 1976 Ending September 1983, Except as Indicated) [AMENDED]
Appendix G – Numerical Criteria to Protect Beneficial Uses [AMENDED]
Appendix H – Beneficial Use Designations for Certain Limited Areas of Groundwater [AMENDED] – Mr. Russell stated that the DEQ is proposing to comply with the Water Quality Standards Triennial Review and includes the following updates: add, remove and/or modify certain definitions; update Primary Body Contact Recreation by replacing confidence intervals with geometric mean and statistical threshold values, applicable to both E. coli and Enterococci; updating Secondary Body Contact Recreation to add numeric criteria for E. coli and enterococci based on EPA's water ingestion formula; adding language allowing the use of the copper biotic ligand model for development of copper site-specific criteria; adding language allowing for the potential; use of multiple regression model for the creation of copper site-specific criteria; requiring the use of a fish tissue study for selenium site specific criteria; removal of site specific metals criteria that were not approved by EPA; removal of segment averages that were not approved by EPA; recalculation of certain criteria and the addition of Aquatic Life and Human Health criteria values based on EPA's recommended values; and including an updated version of Appendix H that was missing in the most recent version of Chapter 730. This presentation is for informational purposes only and no action by the Board is required.

Rulemaking – OAC 252:740 Implementations of Oklahoma's Water Quality Standards
Subchapter 1 – General Provisions [AMENDED]

Subchapter 3 – Implementation of Narrative Toxics Criteria to Protect Aquatic Life Using Whole Effluent Toxicity (WET) Testing [AMENDED]
Subchapter 5 – Implementation of Numerical Criteria to Protect Fish and Wildlife From Toxicity Due to Conservative Substances [AMENDED]
Subchapter 9 – Implementation of Criteria to Protect the Agriculture Beneficial Use [AMENDED]
Subchapter 11 – Implementation of Temperature Criteria to Protect Fish and Wildlife Propagation Beneficial Use [AMENDED]
Subchapter 13 – Implementation of Antidegradation Policy [AMENDED]
Subchapter 15 – Use Support Assessment Protocols [AMENDED]
Subchapter 17 – Implementation of Dissolved Oxygen Criteria to Protect Fish and Wildlife Propagation [AMENDED] – Mr. Russell stated that the DEQ is proposing to comply with the Water Quality Standards Triennial Review and includes the following updates: add, remove and/or modify certain definitions; update reasonable potential to allow the use of a fish tissues study to confirm the need for a water quality-based effluent limit; update Assessment of Fish and Wildlife Propagation support to add fish tissue criteria as the preferred method for assessing waterbodies for selenium, with water column criteria being used if fish tissue is unavailable and adding Assessment of Secondary Body Contact Recreation support to add criteria values for assessment. This presentation is for informational purposes only and no action by the Board is required.

transcript pages 86 – 91

Federal Updates – Dr. Ferrell called on Ms. Madison Miller, Deputy Executive Director of the DEQ, Ms. Miller gave a presentation pertaining to federal administrative, policy and litigation developments that may affect the Board or the Department.

transcript pages 91 – 100

Employee Disclosures – Mr. Jonathan Allen, General Counsel of the DEQ stated that the Environmental Quality Code requires DEQ employees involved in reviewing, issuing or enforcing permits to disclose financial interests they hold entities regulated by the DEQ. The DEQ is required to submit these disclosures to the Board and make them part of the minutes. This is for informational purposes only and no action by the Board is required.

transcript pages 100 – 102

Calendar Year 2027 Board Meeting Dates and Locations – Dr. Ferrell opened the floor for discussion regarding Board meeting dates and locations for 2027: Wednesday, January 20 in Oklahoma City; Tuesday, June 8 in Oklahoma City; Wednesday, September 8 in Weatherford and Tuesday, November 9 in Broken Bow. Mr. Kinder moved to approve and Mr. Tatum made the second.

transcript pages 102 - 104

Katlin Esteph	Yes	Tim Munson	Yes
Jimmy Kinder	Yes	Kim Peterson	Yes
Alexie Kindrick	Yes	Sheldon Tatum	Yes
Brandi Lowry	Yes	Shannon Ferrell	Yes

Executive Session – The Open Meetings Act, in Section 307 of Title 25 of the Oklahoma Statutes, authorizes the Board to enter into an executive session to discuss a pending investigation, claim or action if it determines, with the advice of its attorney, that disclosure will seriously impair the ability of the Board to conduct the investigation, evaluate the claim or prosecute the action. Dr. Ferrell called for a motion to go into

Executive Session, Mr. Peterson moved to go into Executive Session and Ms. Kindrick made the second.

transcript pages 104 – 106

Katlin Esteph	Yes	Tim Munson	Yes
Jimmy Kinder	Yes	Kim Peterson	Yes
Alexie Kindrick	Yes	Sheldon Tatum	Yes
Brandi Lowry	Yes	Shannon Ferrell	Yes

Reconvene into open session – In open session, Dr. Ferrell called for a motion to reconvene the Regular Board meeting. Ms. Esteph moved to approve and Mr. Tatum made the second.

transcript pages 107 – 108

Katlin Esteph	Yes	Tim Munson	Yes
Jimmy Kinder	Yes	Kim Peterson	Yes
Alexie Kindrick	Yes	Sheldon Tatum	Yes
Brandi Lowry	Yes	Shannon Ferrell	Yes

New Business – None

Next Meeting – The next Regular Meeting is scheduled for Tuesday, November 10, 2026 at 9:30 a.m., in Ada, Oklahoma. The meeting will be held at the Robert S. Kerr Environmental Research Center, 919 Kerr Research Dr., Ada, OK 74820.

Adjournment – Dr. Ferrell called for a motion to adjourn. Mr. Munson moved to adjourn and Ms. Esteph made the second. Meeting adjourned at 12:26 p.m.

transcript pages108 – 109

Katlin Esteph	Yes	Tim Munson	Yes
Jimmy Kinder	Yes	Kim Peterson	Yes
Alexie Kindrick	Yes	Sheldon Tatum	Yes
Brandi Lowry	Yes	Shannon Ferrell	Yes

Public Forum – No public forum issues were raised.

The transcript, sign-in sheet and employee annual ownership disclosure sheet become an official part of these Minutes.

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REGULAR MEETING, DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL QUALITY BOARD
BEGINNING AT 9:30 AM ON SEPTEMBER 9, 2026
IN GUYMON, OKLAHOMA

MEMBERS PRESENT:
Shannon Ferrell
James Kinder
Alexandria Kindrick
Brandi Lowry
Tim Munson
Sheldon Tatum
Kim Peterson
Katlin Esteph

MEMBERS ABSENT:
Richard Auer
Steve Mason
Peter Schultze
Mike Paque
Kenneth Hirshey, Jr.

REPORTED BY: Jenny Longley, CSR

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PROCEEDINGS

DR. FERRELL: Good day, Ladies and Gentlemen. The September 9, 2026 regular meeting of the Environmental Quality Board has been called according to the Oklahoma Open Meeting Act, Section 311 of Title 25 of the Oklahoma Statutes. Notice was filed with the Secretary of State on December 3, 2025. Agendas were mailed to interested parties on August 31, 2026 and were posted at the DEQ and the facility on September 8, 2026. Only matters appearing on the posted agenda may be considered.

If this meeting is continued or reconvened, we must announce today the date, time and place of the continued meeting and the agenda for such continuation will remain the same as today's agenda.

I am extraordinarily happy to welcome you all to Guymon, Oklahoma to our meeting today. As the ag industry representative on the board, I'm especially proud to be here in Guymon, in Texas County, because, for those of you who don't keep up with ag statistics, this is the number-one county in the state in terms of agricultural productivity if you measure that by dollar of sales, a regional hub for not only the Panhandle, but also for Northern

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Texas and for Southwest Kansas, a renewable energy hub for us in the state, so there's a lot of stuff going on here in Guymon.

We are here by the good graces and thanks to the magnanimous hospitality of the Lord Mayor of Guymon and our fellow board member, Kim. Mr. Peterson, could you tell us a little bit about where we're at today?

MR. PETERSON: Well, we're right in the center of the best part of Oklahoma, in my opinion, and we're tickled to death to have everybody here in Guymon. And I know you all had a wonderful trip out because once you get to a certain point, you don't have all those damn trees in your way. So anyway, we're tickled to have you.

Real quick -- and I'm going to stand up because they stuck us over here behind the pole, I can't see everybody. But anyway, if I could have all of my City staff that's here in attendance stand up. I'd like to introduce you because these are the people that make me look good daily, sometimes more than once a day.

But Rhonda Hintergardt's our finance director. Big Steve's our public works and water -- don't really know his new title, we've had some

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changes.

MR. PIERCE: Utilities director.

MR. PETERSON: Utilities director, okay, now I know. Steven Christian, he's our water guru, he keeps track of all the levels and all that good stuff. I don't know what he does, but he says he's working all the time.

Chad Bayless, and Chad's our -- runs our community development and our code enforcement and our building inspections. And boy, I'm drawing a blank now. I know your name, but -- back in the back's Mack McKinley, he's our utilities director and compliance director. And I'm drawing a blank.

MR. MITCHELL: Josh Mitchell.

MR. PETERSON: Josh? I'm sorry, Josh, I know you, but it's just one of those days. But anyway, Mike Shannon's drifting around here somewhere and -- but anyway, our city manager.

But I want to welcome you to Guymon, if there's anything you need here, feel free to ask and make yourself at home in the building. There's not too many things off limit. I'm not going to get into your spiel about all the exits and all that stuff, most important thing is there's a bathroom right up the hall.

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Make yourselves at home, if you need anything just ask any of the staff, and we're tickled to have you in Guymon because it's not this often we get this many of our friends from the East out here. So, welcome to Guymon.

DR. FERRELL: I appreciate it.

[Applause]

DR. FERRELL: And Mister Mayor, we definitely appreciate your tremendous hospitality in having us out here. Ladies and Gentlemen, thank you all so much for the work that you do. I don't think people appreciate the infrastructure complexity of Guymon, Oklahoma. For a town of its population it has a lot going on from a commercial and industrial standpoint, so it takes a lot of work, so we appreciate everything that you all do.

As the Mayor alluded to, just a real brief safety moment. The good news is we're in a glass room, so if you need to see an exit, there they are, right? In the event of an emergency, you can exit immediately out here to my left, your right, or to the back, as well.

Believe it or not, there actually is a chance of severe weather. I'm not trying to jinx it, but rain might actually be coming, so if that

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should happen earlier than we anticipate -- it should be later this afternoon, but I am told the vault's right over there. So it'll be a little bit cozy, but we'll sneak in there.

With those announcements out of the way, it is time for us to call the roll. Ms. Fields.

MS. FIELDS: Mr. Auer is absent.

Ms. Esteph?

MS. ESTEPH: Here.

MS. FIELDS: Mr. Hirshey is absent.

Mr. Kinder?

MR. KINDER: Here.

MS. FIELDS: Ms. Kindrick?

MS. KINDRICK: Here.

MS. FIELDS: Ms. Lowry?

MS. LOWRY: Here.

MS. FIELDS: Mr. Mason is absent.

Mr. Munson?

MR. MUNSON: Here.

MS. FIELDS: Mr. Paque is absent.

Mr. Peterson?

MR. PETERSON: Here.

MS. FIELDS: Mr. Schultze is absent.

Mr. Tatum?

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MR. TATUM: Present.

MS. FIELDS: Dr. Ferrell?

DR. FERRELL: Here.

MS. FIELDS: We have a quorum.

DR. FERRELL: Excellent. Thank you, Ms. Fields. That will bring us to Agenda Item No. 4, which is the approval of the minutes from the June 9th regular board meeting. Those minutes were part of your packet if you've had a chance to review those, if not, please do so now, but the Chair would entertain a motion to approve those minutes once you've had a chance for review.

MR. MUNSON: Move for approval.

DR. FERRELL: Motion to approve. Is there a second?

MS. ESTEPH: Second.

DR. FERRELL: Any discussion? Any discussion? Any discussion? Seeing none, Ms. Fields, would you please call the roll?

MS. FIELDS: Ms. Esteph?

MS. ESTEPH: Yes.

MS. FIELDS: Mr. Kinder?

MR. KINDER: Yes.

MS. FIELDS: Ms. Kindrick?

MS. KINDRICK: Yes.

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MS. FIELDS: Ms. Lowry?

MS. LOWRY: Yes.

MS. FIELDS: Mr. Munson?

MR. MUNSON: Yes.

MS. FIELDS: Mr. Peterson?

MR. PETERSON: Yes.

MS. FIELDS: Mr. Tatum?

MR. TATUM: Yes.

MS. FIELDS: Dr. Ferrell?

DR. FERRELL: Yes.

MS. FIELDS: Motion passed.

DR. FERRELL: Excellent.

Item 5 is the Executive Director's Report, and I am told it will be a ringer. So, Mister Executive Director, it is all yours.

MR. SINGLETARY: I've misled you in the past and told you they would be brief; this one will be briefer than any other, I would say.

So first, I wanted to go ahead and apologize for not meeting up with some of you for dinner last night because we did have a Region 6 States meeting - we hosted it this time - yesterday, so that kind of prevented us from getting here. I think it was over -- we probably finished up over at the meeting location about 4:00, so we got -- I

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think we rolled in around 9:30 last night, but...

This is a meeting that we have quarterly with each of the states in Region 6 - Oklahoma, Arkansas, Texas, Louisiana, and New Mexico - and then Region 6 leadership, and we usually -- it's usually down in Texas more times than not, it's been in Arkansas before, but we've been pushing to host it here in Oklahoma and we were able to do that.

Our Region 6 Administrator, as you know, is an Oklahoman, has a relationship with the Governor, and was able to get that meeting scheduled to occur at the Governor's Mansion, which was kind of a neat deal. The Governor actually popped in for a little bit and greeted everybody.

And we had some pretty-high-up folks from EPA leadership. Normally, it's just the Region 6 leadership; this was, like, nationwide leadership. We had the head of the Air program there, we actually had number-three guy, Travis Voyles, at EPA flew in for this meeting and then we had the head of Enforcement, we had several other folks from headquarters there, which was kind of nice because we had some issues.

Typically what we do at these

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meetings is we kind of go around the horn and provide updates and, you know, if you have any challenges or any issues you're working on where EPA can be of assistance, you kind of mine those out. And we have a couple things we're working on, so it was nice to have those folks in the room to talk to.

So it was a good meeting, but it got us out just a little bit late. We actually were able -- since it's in Oklahoma, we had quite a few of our staff there. So most of the division directors, with the exception of George, were en route to Guymon, so they had a lot of their assistant directors there representing the agency.

So I don't remember exactly how many folks we had, but it was probably seven, maybe seven or eight people in attendance, which is kind of rare because usually we have to travel to those. So it was here, which was great, and they were able to participate.

Next, speaking of meetings and collaborations, Madison and I just got back from our ECOS meeting last week, the fall ECOS meeting, and couple of fun things to report. One was I was elected to be Vice President, which is going to be a fun thing, but then secondly, we successfully

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pitched to have Oklahoma host ECOS in March of '28, which should coincide -- if all things go as expected, I'd be President at the time, so that would be great to be President and hosting it during the same -- at the same time, that would be really cool.

I think in Wyoming, at the meeting last week, we had 360-something registrants, so it's a pretty big draw from -- and for those of you who don't know, ECOS is my counterparts from all the other states and territories, and we come together in the spring and in the fall to just talk about common issues, and EPA leadership's there. The number-two guy, David Fotouhi, also an Oklahoman, was the keynote speaker at the conference this time.

So it's allotted time to kind of work through the hot-button issues, obviously data centers and funding, federal funding, cooperative federalism, all these things were on the agenda.

Couple of upcoming deals, I currently am serving as the State Chair for EPA's E-Enterprise Leadership Council and we have a meeting next week in D.C. on that. It's a two-day agenda focused solely on data centers and we're actually going to get the opportunity to go out to some of the largest

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data centers in the world, in Loudoun County, Virginia, and kind of tour those sites and look at all the latest technology and, you know, all the issues related to the environment and hopefully come back with some good ideas.

And then the week after that -- I'm a fellow with the American College of Environmental Lawyers, and they've asked me to come and speak about Oklahoma's compliance-first approach when it comes to enforcement, so we're going to be on a -- I'll be on a panel with some other states and some EPA folks on that, so that's kind of what's coming up in the next couple weeks.

I wanted to touch on -- I just wanted to highlight, I should say, I know I've mentioned this before, but our transparency efforts that we've undertaken at the agency. So you know about our permitting reform bill that we were successfully able to get enacted this year. It didn't go into effect until November, but it has two things, two big components to it.

I've already mentioned this to you, just a refresher, it condenses our timelines to get permits out, but it also revamps our public notice requirements, really brings them into the current

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age and electronics and not just be published in a local paper, it's just a more effective way of doing it.

But it also requires us to create a web page and a permitting portal where all documents -- relevant documents related to any kind of permit application has been filed. If it's a Tier II or Tier III permit, it will be available on our website.

So we've already implemented that, so in our minds it's kind of perfect timing because I'm sure everybody knows we've got a very -- I don't want to say controversial, but we have a permit application in-house for the aluminum smelter that has a lot of public attention.

So having all this information available in such a transparent way is really -- just the timing of it has really worked out well, so we've got an entire page dedicated to the smelter, describing what the permitting process is, where the opportunities for public participation are, where we are in the permit stage the way it's laid out, and then again all the documentation relating to it.

And if you haven't had a chance, you know, we came up with this idea last year and

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started putting it into place, the whole permitting portal, and it was kind of rudimentary at first, we were just trying to figure out how to get all that stuff on the website.

We made some changes recently just updating it, and the functionality -- our IT group is just -- it's incredible, I mean, the way it all works and linked out and organized that -- we had a meeting last week to kind of finalize that last approach.

Is it live? Do we have it up there, Kathy, do you know? The changes we just made?

MS. AEBISCHER: Not yet.

MR. SINGLETARY: Not yet. But it's, like -- it's imminent, I mean, they've been approved, we're just working through the process of getting them live. But everything from clicking, signing up for any new notifications related to a specific permit, whether it's text, whether it's email, and just the way the graphics and everything's designed and the accessibility to get to all the documents and navigate it, it's pretty darn impressive. It's all done in-house, which was pretty incredible.

Speaking of transparency, we also have a lot of public interest in what's going on in

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Ponca City. There's a lot of attention being focused on the carbon black facility there, so we've dedicated a web page to that showing all of our enforcement that we've done, inspections that we've done in that area.

We've also included the documents related to the consent decree and different EPA action in that area related to that facility, just to make sure all that information was available and the public understood the actions that the agency was taking.

And then we recently created a data centers web page, as well, just to show all the different aspects of DEQ's involvement in data centers, whether it's, you know, water discharge permits to air quality emissions source, whatever the nexus is to DEQ, it's kind of described there.

And then that will -- just like our permitting portal, we'll continue to build that out as new information comes to light, so hopefully that will just continue to improve, but there's some attention related to that topic that we thought it deserved its own informational web page, as well.

I mentioned the smelters. So just to give you a smelter application update, we're still

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staying engaged with anyone interested or concerned with the project. We're in the middle of the technical review process, it's a very iterative process, you know, back and forth. We have questions, we need clarifications, we ask for additional information, you know, we -- it's just a process that it's typical of any permitting process.

It's a little bit of a challenge when you're trying to be as transparent as we are because those communications, we're putting them all up on the website so folks can see it, so there's always the danger of someone taking that out of context.

And so we're trying to be very cautious, we're kind of learning as we go to be very careful on how we word things and -- you know, so that it can't be taken out of context and twisted, so kind of a learning process for us.

Last week, the applicant actually revised their submission and reduced the amount of anticipated fluoride emissions from I think it was 425 tons per year down to 272, so it's more than a third production, which is very encouraging. Still a lot of work to do on that application, but that's kind of some of the latest.

We still get a lot of attention

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nationwide and definitely statewide in the media. Within the last few weeks, I put together a press release, with Skylar's help, kind of trying to correct -- there's a lot of misstatements or misunderstandings related to the permitting process, and we wanted to kind of just kind of clarify things for folks out there and kind of correct some of those things.

So we ended up -- we released that press release, there were several news folks who picked that up and ran some articles about it, which was nice to see kind of our perspective on things put out there.

So I think that was a good effort overall, you know, whether it was Skylar on the communication piece or Madison or Kendal or Lee or Alex, we've got a whole team working on that application and they are doing incredible work.

And Alex Mills is the permit writer in Air Quality and she is knocking that out of the park. I mean, this is a very difficult application, there's a lot of attention on it, and just the level -- the quality of work that they're doing is just incredibly impressive.

On the personnel side, we have -- I

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don't want to say personnel, just more related to impacts on personnel. We've talked a little bit about it, an across-the-board raise, I know the board's in support of doing something like that.

I was informed that we probably wouldn't be able to do that until the beginning of the next calendar year. I can -- I'll provide some details on that if anyone has any questions, but we are -- I'm still looking at -- we are going to look at is there a way we can do, like, a one-time, pay-for-performance-type bonus award system before the end of the year, that's something we'd like to do.

And one of the reasons besides, you know, just our staff and their continued good work and inflation and everything, one reason we want to do that is because insurance premiums are going up by 20 percent, so that's a pretty significant bite out of people's paychecks, it'd be nice if we could help compensate that to some degree.

We are continuing -- when I say that across-the-board raise is kind of on hold for right now, but we do continue with career advancements. So anytime -- we have no trouble getting those approved anytime somebody's eligible for something,

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the next step in their career progression, we always -- we haven't had any trouble getting any of those approved.

Next up, board orientation. That's coming up, and hopefully you guys have received communications on that. It's the 15th, right, Madison?

MS. MILLER: Yes.

MR. SINGLETARY: September 15th, so -- it's board and council?

MS. FIELDS: October.

MR. SINGLETARY: October, not September, so close. So October 15th, it's -- I would say board and councils, but it's board and any Air Quality Council members that are interested in participating, obviously they're -- they can attend that, as well. So, Madison's put together a nice package of information to share with you all.

Speaking of councils, Ryan and I met with Chairman Kendrix, who's the Rules Committee Chair in the House, we talked about a couple things. One, he indicated he's planning to run a bill to reinstate councils, so we may be back to status quo after the next legislative session, we'll wait and see.

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But the real reason we went to talk to him was because there was a bill that had made it through the process, last year it was enacted -- or this year, that requires agencies to have explicit authority for any of the rules that they promulgate, and we have to go back and look at all the existing rules and, on kind of a staggered timeframe, you have to provide that information and justify where that explicit authority is for each rule.

So we went and met with him just to get a little better feel for what "explicit authority" means and -- because you know, our responsibilities are so broad. I mean from every aspect of environmental regulation, it's not super simple and some of our statutes are not super long, either, right, so we wanted to know exactly what he meant.

And before we could even get the questions out, he said, "Well, I recognize that there are certain agencies that have to incorporate federal rules by reference in order to have a program -- a federal program that they can implement in the state", and he's going to run -- he's got a -- he's going to work with leadership and get the skids greased.

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Early in the session they're going to try to get something passed that's going to account for that and allow those incorporation-by-reference type agencies to provide some cover within that statute. I have no idea what that's going to look like yet, but he acknowledged that that was an issue.

And we also talked through some of the rulemakings that we -- we just provided some examples for him to kind of evaluate and consider and showed him the authority that we had and, you know, is this going to be sufficient. And you know, nothing concrete, but he understands the complexity of what we do and how hard that is to put that in a statute.

So I think we're in good shape there, but -- so it was a good meeting, we'll have to wait and see how the process goes, but I mean, you can imagine with all the rules that we have and then when you consider that -- you know, the incorporation by reference, it just expands these rules to hundreds of thousands of federal regulations, right?

So being able to justify each one of those with explicit authority is a little bit of a

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task, but -- depending on how you define it, but we think we're in good shape, and we've never done anything we didn't feel that we had 100-percent authority to do. So it shouldn't be an issue, it's just going to be the exercise of proving that out.

Next up, our Rural Infrastructure Grant program. We've been working with -- and I've updated several board members on this as the process has unfolded, but we're working with Senator Green - Rural Water, I know I saw Brandon back there - and some others that are involved in the process that our goal is to try and formalize that program, it's an incredibly valuable resource for these small systems and we want to make sure that it's kind of protected.

Right now, the funding that comes for that is $10,000,000 per year, it's kind of worked into our base, but we really don't have any statutory -- direct statutory framework for implementing that. We have a very robust program for that, but we want to put it in a statute to kind of memorialize it, formalize it, and hopefully keep it going on for a long time, right?

So we're kind of working with Senator Green on that and what could be a potential -- once

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we have something, then of course we're going to bring it to you all. It'd be at the next board meeting in November when we get your approval for our legislative agenda, once we have kind of the framework and everything built out for you, so be ready to see that next November.

Garage and elevators updates, keep this one short, everything's going great. We're ahead of schedule on both, so we're still thinking by the end of the year the garage is going to be finished.

I don't know if you -- any of you guys have been by it, but it looks fantastic. They've got the brick up on kind of the side posts, and I mean, it's all kind of been -- a lot of the outside work and the detailed work, but -- yeah, and the elevators within the garage, as well, but they're progressing on those, as well.

There are internal elevators, we're going to have two of those replaced still by the end of the year, and then the other two, you know, by May or June, somewhere in that timeframe. So knock on wood, everything's going really smooth in that regard. Don't want to jinx it, but we haven't had any major hiccups, it's pretty awesome.

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Upcoming rulemaking. Kelly, would you mind coming up? Kelly's just going to give you just a little, 30-second update. We've got some naturally occurring radioactive material rulemaking coming up and we just -- since we don't have a council to send it to, Kelly was just going to just kind of whet your appetite for it and tee it up and then we'll come back with a lot more details later.

MS. DIXON: Yeah, so -- Kelly Dixon, Land Protection Division. Real quickly, last -- early last year, we were asked by the regulated community to evaluate NORM and offer an opportunity for disposal of NORM. Right now, it's prohibited from disposal in any solid waste landfill.

So the council asked the DEQ to form a work group. And so we did form a workgroup, it was a broad-based interest group including regulators, members from the Solid Waste Council, oilfield stakeholders, EFO, OERB.

We, to date, have had four meetings and they were very productive. We've drafted rules, those rules provide an opportunity, if they're passed, for disposal of NORM in landfills that can demonstrate they have the operational wherewithal to manage it properly. And there's three different

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categories: there's de minimis, what's -- that's not regulated, some that's regulated, and some that has to go out of state. If these rules get passed, they would be beneficial to Oklahoma because right now NORM waste gets shipped mostly to West Texas.

And our plan for rulemaking is that we will provide those -- we'll go through the rulemaking notice of intent in October, and then if that's approved we will have two meetings. In lieu of our Solid Waste Management Council, we'll have an informal stakeholder meeting and then a formal rulemaking meeting, probably in November and then December, and then we will bring those rules to the board in January. So that's the short plan.

MR. SINGLETARY: Thank you. More to come.

Speaking of more to come, in rulemaking, strangely a very seldom used mechanism for rulemaking is the petition for rulemakings, and we currently have four rulemaking petitions kind of on the books.

Today, you guys are going to hear about the Used Tire Recycling compensation petition. At the November meeting in Ada, the Blue River Foundation has petitioned to designate the Blue River as an outstanding resource water.

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And then in January, we have two. We have the solid waste facility siting requirements petition and then there's the petition related to travel jurisdiction determinations, as well. So both of those will be at the January meeting, so...

All of them could have been at this meeting, but the -- because we're required to bring it to the next board or council meeting for presentation, but the other three have decided they didn't want to make the drive to Guymon, so we're going to -- they're going to be strung out just a little bit.

Getting to the last page here real quick, we have two PFAS issues I thought the board may be interested in. So Reworld, which is formally Covanta, it's the municipal incinerator kind of in the heart of Tulsa. It's been a little bit controversial with a lot of citizen concerns, just really because of its location, and then there's been some legislative concerns from the local legislators, as well.

They have asked to have permission to burn PFAS waste in that incinerator, which we know municipal waste has PFAS in it, but this is specifically designated PFAS waste. And before we

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gave them the green light to do that, we wanted them to ensure us that they were actually properly destructing it, because the last thing we want is for incomplete destruction and dispersion of PFAS, you know, anywhere, but especially in any densely populated areas.

So they have done a study in Florida in combination with EPA on one of their facilities and EPA was satisfied with what they had done, but we asked them to kind of repeat that in Oklahoma because every facility's a little bit different.

This one actually burns a little hotter than the facility in Florida and there are some other design differences we want them to account for and we want them to approve, and hopefully get a green light from EPA before we give them the green light to do that. So that's kind of something that's -- we're working through now.

In the Stillwater area, there's been a request to do an interbasin transfer from Kaw to McMurtry, and one of the waterbodies has PFAS detected in it and the other doesn't. And there's another pollutant - is it mercury - it's mercury, as well, that's in one and not the other.

So we're kind of working with that

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interbasin transfer when one has contamination in it and the other doesn't, you know, what's the proper way. So we don't have anything really to report on it, but it's an issue we're trying to work through right now, just looking at the science and kind of the regulatory framework associated with that.

Next, the nuclear campus applications. I don't know if you've been following this, but Oklahoma is one of the five finalists for these nuclear campuses that are being designated by the Department of Energy.

Supposedly, I mean, we're talking about -- I've heard numbers of, like, $50 billion to $250 billion investment that comes with these sites whenever these campuses are selected. Secretary's Office and the Governor are very interested in this.

Oklahoma - like I said, we're one of five finalists - was asked to attend a meeting a couple weeks ago to learn a little bit more about it, and if Oklahoma's selected, DEQ's role would depend on -- there's so many different parts of the campus from, you know, deep bore injection of the waste, to enrichment, to recycling of nuclear materials, to mining.

There's, like, a bunch of different

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aspects of it, and the best we could tell at this point is if DEQ was -- if Oklahoma was selected, if there was any enrichment, especially if there was any recycling done, there could be chemical waste or low-level radiation waste that we would regulate.

If there's any kind of high-level radiation that's being disposed of and, like, deep bore injection, that wouldn't be us, that would be NRC that is the permitting authority on that. So we could provide assistance with monitoring and things like that, but it wouldn't be -- it wouldn't primarily come to us.

But the administration is trying to move pretty quick on those determinations, so we ought to know fairly soon whether or not Oklahoma's selected for that and, you know, if so, you know, what parts of the process would be coming to Oklahoma.

And it's one of those things where there's a lot of locations across the state that are interested in hosting different parts of it. So it'll be interesting to see, you know, how that goes, but I thought you all may be interested in an update. So we should know by the next board meeting whether or not Oklahoma was selected and really what

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that means for us.

Second-to-last thing I wanted to mention, because of the drought, because of all the heat, we have had a significant number of boil advisories issued across the state, I mean, just this heat and drought and high demand has really done a number on a lot of different systems.

And I just wanted to kind of acknowledge our Public Water Supply section. It's like every weekend, every time somebody's on vacation, it's like a new boil order in some major municipality kind of hits the fan and it's -- it's a big deal.

Anytime there's a boil order, I mean, it affects commerce, it affects citizens, it's a really big deal and our folks have really been on top of it, providing assistance, getting those lifted as quickly as possible and so I just wanted to give them a shout-out for some great work.

Lastly, speaking of shout-outs for great work, our employee of the quarter we just named last week, and it's Rachel Bragg from the Air Quality Division.

And then we also designated our team of the half, and it's our Accounts Receivable group.

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Alyssa Switch, Blake Duhart-Wilkins, Tyleah Neroes, and Gwen Lambie were the members of that team. So none of them are here, but we'll try and recognize them the next time we're in Oklahoma City.

But anyway, I'm happy to answer any questions if there are any or...

DR. FERRELL: Any questions from the board?

MR. KINDER: Rob, talk to us about you expect -- you talked about the infrastructure with water and being stretched, and talk to me about how that's affecting your RIG grants and how -- you know, how well we're keeping up with all those applications that I'm assuming are coming in.

MR. SINGLETARY: Yeah, there was -- I can say I think we're -- I mean, 100 -- I don't know if we're 100 percent yet, but I mean, last year's money is 100-percent allocated and out the door, so I mean, we haven't had any trouble moving those projects along. When the program started five years ago, there was a little bit delay in getting that thing running, but now it's like every year its 100 percent.

And that's one that is dedicated to infrastructure, and so we work hand in hand with

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rural water on getting the money out the door and it's -- there's a tiny little overhead fee with -- the vast, vast, vast majority of that money actually goes specifically to rural infrastructure, and it's -- over the last five years, we're talking about $50 million that's gone into that, so it's been a huge impact. I know -- would you like some specifics on what we've accomplished?

MR. KINDER: Well, I just want to know if we have money in the account at this point --

MR. SINGLETARY: Oh, yeah. Yeah, right now we -- yeah, we got reloaded for the upcoming -- for this fiscal year --

MR. KINDER: For this fiscal year, okay.

MR. SINGLETARY: -- so we're working through that, for sure, but even before this we've had -- before the drought and before, you know, the high demand and the heat, we weren't having any trouble. The need is there. So that $50 million is really, I mean, a drop in the bucket for what the need is for these small systems.

MR. KINDER: Okay. Thank you.

MR. RUSSELL: Do you want me to come up?

MR. SINGLETARY: Would you like to? Yeah, George, come up. He can provide us -- George

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Russell, our Water Quality Division Director.
MR. RUSSELL: Morning, everybody. Yeah, definitely we've gone through all the previous year's money, and we actually have a meeting set up on Monday to kind of kickstart this new year, too. And we have a significant waitlist, I think we're almost pushing 200 applications that are already in for this next year.
So the money is moving and it's helpful, though. It's like -- it fills this gap where the big DWSRF funds hit the big infrastructure projects, and this fills those gaps for the little, much needed, day-to-day stuff, so yeah, we're looking really good.
MR. KINDER: Thank you.
DR. FERRELL: Any other questions from the board? Any questions from the public?
Rob, as always, thank you so much for your work, thanks for representing us well at the national level. I'm very excited about the fact that ECOS is coming to Oklahoma, I think we have a lot to show off and, quite honestly, brag about. So I'm hoping maybe I can stick around long enough to be part of that, I'm really excited about that development. Thank you for your work.

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All right. That will move us then to Agenda Item 6, which is our Land Protection Division Update and Proposed Resolution, and to help us with that is Kelly Dixon and Aron Samwel.
MS. SAMWEL: Hi, I'm Aron Samwel, I am the Brownfields Manager at the Department of Environmental Quality, and this is my first ever board meeting, so I'm not sure if I'm being rewarded or punished.
I have been at DEQ for 24 years, I was in Superfund for 13, and I've been in Brownfields for the last 11. You all -- have you ever heard of Brownfields?
ALL: Yes.
MS. SAMWEL: Okay. So we actually do quite a bit. We can provide liability relief, it's a voluntary program for people to clean up sites. We do cleanups, we do assessments, we provide technical assistance, we do outreach. We've even had a workshop in Guymon. It was before 2020, so I don't know if you were able to come, but I'm going to go through some of the stuff we're doing this year.
So this is our assessments, I have dots where we're doing assessments, and we're just

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assessing environmental hazards. We can do these for free for cities, counties, tribes, and nonprofits, and they don't actually have to own the site, they just need to be interested in purchasing the site. So if we have access, we can do an assessment. Sometimes it's a Phase I, which is just due diligence, records, sometimes it's a Phase II, which is sampling.
So here's one that we're doing this year, it's in Hugo. It was a hotel, and you can see it's not in good shape. Interesting that that bucket right there, it says, "asbestos adhesive". So normally we don't actually see things labeled asbestos, but this one we did. So we're going to sample it, and they want to turn it into a mixed-use residential site in their downtown.
This one is in Enid, this is a site that somebody wants to donate to the Salvation Army. This is our first site where we're sampling for PFAS, so it's kind of a big deal for us. We'll see hopefully that results are good and they can take the site because the Salvation Army actually has a bunch of buildings right around it. So we'll see what happens, but it used to, like, repair firefighting equipment, so PFAS is a concern.

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This site -- you said you're from Stillwater? You are. Okay. So this site is in Stillwater, it's actually two properties. The church wants to demo and build a new church, and then they have an empty lot next to it and they're going to build apartments, and it's right by campus. So this one, we're doing sampling and then a Phase I on the empty lot that they own.
And this one is in Western Oklahoma. I don't think you've seen this one before, Rob, it's in the town of Erick. It's a grocery store and then they have another site they want us to look at, it's a senior center. The grocery store's being donated to the town, and the senior center they want to do some remodel, so you can see in the far right it's not in good condition for the seniors, so...
And then we're doing something new this year, a small technical assistance grant. This is money from EPA, it's only $20,000, but we're going to use it for the town of Fort Supply. I'm sure y'all have heard of Fort Supply. It's a huge site, 70 acres, 20 buildings, we've already done assessments on their admin building and their chapel.
This $20,000 grant will help them do

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a site reuse study, so what will it be in its next life, which is going to open up, hopefully, doors for them if they can -- if they know what they want it to be, then they can go after grant funds, so we're hopeful that this helps them.

And then this is the cleanups that we're doing, I thought it was nice that the dots are all evenly spread across the state. Our revolving loan fund we have for cleanup, if it's a private entity we can do a loan, if it's a government nonprofit we can do a grant, so I'll show you some of the ones we got.

This one is down in Broken Bow, it's McGee Chapel, it's a Choctaw Presbyterian church. They want to do a demo, so sometimes if the building is in really bad condition, the cleanup can be a demo, and so that's what they are going to do to that site.

And this one is not too far away in Buffalo, this is a museum, it closed down. So we're going to do a cleanup and then hopefully they can reopen because they had to close down, so hopefully we'll have a success story here.

This one is in Oklahoma City, Crossroads Mall, it closed down in 2017, it's over 1

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million square feet. Estimated cleanup is $10 million. This is a potential loan. They've talked to us, they might want to come in and get a loan for us. So we would partner with Oklahoma City on this project, so we'll see what happens, but we're hopeful that that will get done.

I'm also -- I work a lot with the Community Revitalization Program, they are state funded whereas Brownfields is federally funded. A lot of times, Brownfields can assess the site and then we can hand it over to the state program and they can do a cleanup for cities and counties.

Here's one that they did last year, these are finished sites. This one's in Goldsby, it is a community center and city hall, and they've done all the asbestos cleanup in that site.

This one is Hydro, this is a Route 66 retired bridge. They sandblasted it and encapsulated it and made it part of their park, which is pretty cool.

This one is Wellston. If you see at the very top of the slide, the roof is caved in, I don't know if you can see that. This was one of those wet demolitions for the cleanup. EPA actually did the assessment on this one and then Community

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Revitalization did the abatement/wet demo.

This one is in Woodward, it's a three-story former hospital. It's in the middle of a neighborhood, so it almost looked like a haunted house. They did a wet demo at this one and they want to make it into residential.

And here's the ones that they're planning to do this next year. This is Taft City Hall and Community Center, they want to demo one building and then do a renovation on another building, that one is going to begin in September.

And Buffalo. This one, the town purchased -- it's the first building built on their Main Street and they want to return that into office and retail, and it's going to start in October.

And then Panola, this one is going to be an abatement and then the church is actually going to pay to do the demolishing, but the town owns the site right now.

And this is down in Latimer County. Their courthouse is an active courthouse, so this will be an interesting one, they're going to do the abatement while the workers are there. It used to be a jail. You can see that door there, it looks pretty safe, and then they have all their county

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records, you can see the books there in the -- looks like a kitchen, almost. But yeah, they need some help and -- so that one's Latimer, that one's going to start in January.

And then since we're in Guymon, I wanted to highlight a success story. This is actually Boise City, I drove over there yesterday. We did an assessment for them. They had a bunch of hazardous waste drums, they had no idea where they were from, who put them there. We sampled them and then the Community Revitalization picked them up and safely disposed of them. They have rebuilt their hangars, so they have all new hangars now.

And then if you'll go to the next slide, Malcolm, this is the renderings they showed me yesterday of what their new terminal is going to look like and I'm super excited for them. You can flip through those. It looks really cool.

There you go. So you'll have to go visit when they get this done. Does anybody have any questions for me?

DR. FERRELL: Any questions from the board?

MR. SINGLETARY: This is one of our kind of showcase programs. It's non-regulatory, it's

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just when DEQ and EPA and Oklahoma City, some -- I guess OCC also has a Brownfields Program where they can come in and there's contaminated sites, and can help revitalize them and it changes the economics of the area and it improves safety.

It's just such a great, great, story, so we try and get Aron out as much as possible. I cannot believe you've never been to a board meeting in a quarter of a century, so this won't be your last.

MS. SAMWEL: Oh, no. All right. Well, thank you very much.

DR. FERRELL: And we're extraordinarily proud of Oklahoma's Brownfields Program. Like Rob said, it's a true win-win for the communities, for the private sector, and for the environment. So we are very proud, it's a flagship program for us, we appreciate your work.

MS. SAMWEL: Thank you.

DR. FERRELL: And with that, Ms. Dixon.

MS. DIXON: Good morning again. You guys get the benefit of listening to what we normally present to the Solid Waste Council this time of year. I'm going to go over some of our solid waste grant programs, which are not as well known as the

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Brownfields Program, but that are still valid and have provided a lot of help for local communities. Malcolm, I think you're going to have to just scroll through this for me.

Okay. So let's do a quick program overview. Every year between November and February, we have an open window for people to apply to our grants. We do a press release so people know it's available, and eligible entities are: tribes, political subdivisions, higher education, local and statewide organizations, and nonprofit organizations.

And these are our grant categories. Environmental officers, which we used to call trash cops, help curtail illegal dumping and provides funding for a part-time officer and some equipment like trailers and things like that.

Equipment grants, this helps manage recycling, green waste, food waste, household hazardous waste, and a lot more. Some of the examples here are chippers, balers, roll-offs, household hazardous waste drums, excavator attachments.

This is an interesting one, this is a -- I can't remember what the location is, but it's a

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beach on the state park where they are able to scrape the plastic waste off the shore and it's real easy for them to do.

We also -- this is a very popular one, where communities apply for grants for collection events for hard to handle solid waste streams, including household hazardous waste, electronic waste, pharmaceuticals, sharps, scrap metal, bulky waste, mattresses, things like that.

And we also have added a food waste management grant to our solid waste grants to help redirect edible food to people who may not be able to afford it and it diverts food from landfills and also provides for composting.

And then the last category is professional grants. This is where we encourage environmental education, sustainability, beautification, and litter abatement.

So Mr. Malcolm, if you could skip to FY26 -- oh, we can do sharps management, I missed that one, I'm sorry. Sharps management, we provide sharps collection for people so they can make sure they safely dispose of their sharps.

And the need arose from the solid waste industry, mostly getting pricked by sharps and

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it's, you know, not safe for that, so we started a committee and it's been very successful.

Okay. Now we can skip to the FY26, and I'm going to highlight just a few of the things that we funded this year. We awarded 47 grants across the state and we hope -- you know, our plan is to cover the whole state as much as we can.

And here's a chart that shows the categories of the grants that we awarded in FY26. You could see the bulk is in cleanup, and that's litter cleanup, and collection events are associated with that and equipment is a very popular one, as well.

So we had 14 professional grants this year, and that includes Oklahoma Beautiful, Oklahoma Recycling Association, Green Schools, and Product Stewardship Institute. Really, they provide statewide education resources for recycling and solid waste management.

And I thought we would -- this would be a nice one to highlight. The Cherokee Area Council 469 has a recycling center. We provided some recycling equipment to them and you can see the metrics, and they were very proud of the impact of their recycling program. They were able to help

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recycle at three schools and improve recycling education at those schools. All of this story map is on our website and you can look -- scroll through the different years.

A portion of our grant program is mandated by statute, we get 10 percent of our solid waste fees for solid waste management, and we've found the easiest way to do this is to partner with the Oklahoma County Circuit Engineering District Board, which is OCCEDB, and they also give out grants.

One of the things that we've done recently, in the recent years, is add $50,000 in their -- in the grant that we give them to manage storm debris because they're able to be more nimble in giving out grants when there's storms. So it's a great partnership and they report metrics -- all of our grantees have to report metrics back to us.

We gave out six community equipment grants, you can see balers, forklift, chippers, mulcher and trailer. Render spreader and paint can crusher, that would be for a household hazardous waste collection place.

Nine collection grants. This is where we had community events and you can see

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they're all over the state, and it's a great partnership. Those collection events tend to be centered around Earth Day and they tend to be, you know, bigger, larger community activity and it makes it a great community event. And we also partner with the tire program to collect tires, which are always hard to collect and make a big mess.

And we have given two food waste management grants. We're highlighting here today the Broncho Bites, which is UCO, and they have a rigorous program to divert food and containerize it for later use by staff and faculty.

And they rely on volunteers to do this and they also have a very -- there's the metrics there, and if you can keep scrolling, they also have a very active composting program where they're diverting nonedible waste for composting instead of taking it to a landfill. So that's also been very successful.

And then we have four sharps management grants we've awarded this past year, and again, more than 100,000 residents in Oklahoma are prescribed these self-injecting medications, and it's a big problem in the waste stream and this helps take care of it safely. We can scroll through

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that.

And then the environmental officer grants, 11 were awarded this year, and you can see the metrics of almost 1 million pounds of trash were cleaned up and mattresses collected.

And you know, the nice thing about cleaning up these illegal dumps is they become -- once you have a dump, it's an attracted nuisance and it just grows and grows and grows. So the quicker people can address them and prevent them from happening and clean them up, it keeps them from getting bigger. And this is a common -- trailer is a common purchase for these people that get these grants.

And then we have a lot of testimonials, people just -- you know, and you can scroll through if you want to go through the website and check and see, but a lot of people just love these grants and are frequent flyers. We generally have more requests than we can fund each year, and we have a -- we have our process, a matrix where we have an objective evaluation of those grants.

So our Solid Waste Management Act created solid waste fees to fund the entire program, and so these fees fund all of our personnel in our

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program. Malcolm, you can go to the budget.

And the fee is $1.25 per ton, and it's assessed for the disposal of waste at landfills, waste to energy facilities, commercial composting facilities, and roofing material recovery facilities, which we have none of those. The Solid Waste Program receives no appropriated funds from the legislature and we don't charge permit application fees.

So this is -- we are required by the Solid Waste Management Act to annually report to the Solid Waste Advisory Council our income and expenses for the fiscal year, and so that's why we're here today showing this to you.

So you can see our budget for '26 and expenditures and for '27. The top half is mostly salaries and personnel, travel. Lab equipment and furniture, that category tends to be our IT purchases like computers and things like that. We support the lab every year. This year, we provided -- these next two years we'll be providing $300,000, and then the indirect cost is assessed on our salaries.

And the lower half is our grant program that I just walked you through, and you can

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see the different categories that it's broken out in. The last category were projects to implement county plans, is the one that goes through the OCCEDB. Our revenue was up this year, it was $6.6 million. It generally is around 6.2, that's what we can reliably budget on, but it varies up and down over the years.

So at the end of my remarks, I'm going to -- the other thing the statute does is requires our Solid Waste Council to submit comments and in the form of a resolution to the legislature and the Governor by November 1st. So when we get to the end of my remarks, I will read that resolution and you guys can vote on it.

So the last thing I wanted to talk about before that resolution is some directives of the -- well, we talked about the NORM, but the directives of the council from last year. We did the NORM workgroup as they directed us to do, and the other workgroup we did was a review of our five-year closure and post-closure costs.

So back in the 2000's, we didn't have very good uniformity in our post-closure and closure costs, so we hired a consultant to come up with unit costs for all of the closure and post-closure costs,

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and that's become -- that's in our rules since 2003. So every five years, we have to review those costs and see if they need to be changed.

There is a regulatory provision that adjusted for inflation every year, but every five years we do a deep dive through a work group to see if we need to make any major adjustments. So we did that five-year review, we completed it and no changes were recommended, so the unit costs are going to stay the same.

So let me find my resolution now. okay. This is the resolution that we're putting before the board today. "Whereas the Oklahoma Solid Waste Management Act requires DEQ to annually report to the Solid Waste Management Advisory Council its income from solid waste fees and its expenditures of those monies during the previous fiscal year, whereas the Council is also required to develop comments comparing income with the program expenditures, whereas the Council was terminated on July 1, 2026, according to revisions of 27A O.S. 2-2-201 and the Environmental Quality Board has assumed the duties of the Council, therefore the Environmental Quality Board hereby resolves as follows: the solid waste fee income is adequate to

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support the Solid Waste Management programs for which it was originally intended and approves the report of the income and expenditures for the fiscal year 2026."

So I have a copy of this if you guys need it, Shannon. And before I walk away, I wanted to see if anyone had any questions about anything I presented today.

DR. FERRELL: Any questions from the board?

MS. LOWRY: I had a quick question, this is part clarification. Even though the revenue in excess of program costs is in parentheses, that's not actually a negative number, is it?

MS. DIXON: No, I -- no, that's just the way they -- our finance folks put the report together, it's not.

MS. LOWRY: Okay.

DR. FERRELL: Any other questions from the board? Anybody from the board? Any questions from the public?

All right. Seeing none, we have before us the resolution that's been proposed. Is there -- well, first off, the Chair would entertain a motion to accept the resolution.

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MR. TATUM: Mister Chairman, I move that we adopt the resolution as presented.

DR. FERRELL: It's been moved. Is there a second?

MR. MUNSON: Second.

DR. FERRELL: Second? Any discussion from the board? Any discussion? Any discussion Mr. Kinder?

MR. KINDER: Do we need an amendment to accept the report?

DR. FERRELL: Oh, would you accept an amendment to also include --

MR. KINDER: Would that be a friendly amendment, would you allow that?

MR. TATUM: Absolutely.

DR. FERRELL: All right. Now we have a motion as amended to accept the report and also to accept the resolution. Any discussion on that? Any discussion? Any discussion?

Seeing none, Ms. Fields would you please call the roll?

MS. FIELDS: Ms. Esteph?

MS. ESTEPH: Yes.

MS. FIELDS: Mr. Kinder?

MR. KINDER: Yes.

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MS. FIELDS: Ms. Kindrick?
MS. KINDRICK: Yes.
MS. FIELDS: Ms. Lowry?
MS. LOWRY: Yes.
MS. FIELDS: Mr. Munson?
MR. MUNSON: Yes.
MS. FIELDS: Mr. Peterson?
MR. PETERSON: Yes.
MS. FIELDS: Mr. Tatum?
MR. TATUM: Yes.
MS. FIELDS: Dr. Ferrell?
DR. FERRELL: Yes.
MS. FIELDS: Motion passed.
DR. FERRELL: Ms. Dixon, thank you guys both for your presentations, those were fantastic. We're very glad to hear about the good work that's happening in Land Protection and all the things that you all are doing.

That moves us next to Item 7, which is a Petition to Initiate Rulemaking on our Used Tires Recycling Compensation Program, and to present that, I believe we have Mr. Skeith.

MR. SKEITH: Thank you Mister Chairman, Members of the Board, Directors. Mayor, nice to be in your fair city. My name's Andy Skeith, I'm here

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today on behalf of RTR Environmental.

RTR is a used tire professor that's located in Noble, Oklahoma. It was created in 2010, it was issued a permit. Since that time, it's grown to where it processes approximately 85 percent of all the used tires in the state of Oklahoma and it goes to all 77 counties every quarter. Mayor, we pick up most of the tires in your city.

But it's grown, and in 2024 it acquired another used tire processor that was located in Duncan, Oklahoma. The company was called Four D Rubber. The way the Used Tire Program is set up, each of these processors has a permit.

And when we acquired Four D Rubber, much of the equipment there was dilapidated, it was not of much use, and so we had to -- RTR had to put some new equipment in that facility down there.

If you look at the rule impact analysis that the staff's put together, the Used Tire Program is paid out in different allocations, different tiers, and the fourth tier is for capital investment, a reimbursement for some of the equipment, the cost of the equipment that goes into these used tire processing facilities.

RTR purchased some equipment and put

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it in this new facility down in Duncan. The problem is that we don't really get compensated, reimbursed for the cost of that equipment because we don't run enough production through that facility, it's all funded or paid out on a tonnage basis.

So -- and the Duncan facility, we simply don't run enough tonnage through that facility. Now, in the Noble facility it's a completely different story, we get quite a bit of tonnage that goes through there. So to be reimbursed 100 percent at the Duncan facility, it would never happen, we just don't run enough tonnage through that facility.

So what we're proposing and what we've asked for with this rule change is that the two facilities be combined, where instead of just getting the reimbursement for the tonnage that goes through the Four D -- the old Four D Rubber facility in Duncan, then the two facilities are combined and so then we can be reimbursed cumulatively through all the tonnage that we do.

So I think essentially that's what we're trying to do, I don't think there's -- there's no statutory limit or prohibition on doing this, it's just the rules when the rules were set up. I

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don't think that they foresaw one company owning two facilities.

And so that's what we're trying to do today is just trying to get an aggregate payout on both facilities instead of being reliant on the production of the tonnage in each individual facility. Is there any questions?

DR. FERRELL: Any questions from the board?

MS. LOWRY: Yes, I have a question, but it may be more for DEQ staff in that, do we have any numbers on the actual fund and how it's paid out usually?

MR. KENNEDY: Thank you, Ms. Lowry. I am Kole Kennedy, I'm the manager of the Used Tire Recycling Program, and I can answer any of your questions specifically about that.

So you asked specifically about what the numbers look like in the fund? We typically pay out roughly $13 million to $15 million a year from our program. Not all of that goes into capital investment, that's just what they are reimbursed for going out to Guymon or Broken Bow or wherever to pick up those tires.

So on the second page of the sheet

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that was turned in, the amount that he's -- that the proposition is asking for would not actually have any fiscal impact at all on the program itself, it would be a net neutral to DEQ. Does that specifically answer your question?

MS. LOWRY: Well, it looked like in the example it was talking about the monthly payout and that it's the same number, right, for RTR and Four D, it would just be aggregated together, so that's why you talk about neutral.

MR. KENNEDY: Yes.

MS. LOWRY: But is that still the case for the capital investment then? I mean, if there would be additional capital investment paid out for Four D --

MR. KENNEDY: So no, it would not. So what they're proposing is that DEQ keeps a running total of how much money RTR claims every month -- or, how much money RTR has spent on capital investment at each facility, we have a running total of that, and they are only allowed to claim up to that certain amount and then they are reimbursed at a rate of $20 per ton. So when they're asking to combine that number, it's simply just allowing for a more expedient reimbursement of that capital

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investment.

So basically you're looking at, again, a net zero of what's actually happening because Four D and RTR would just combine the total amount of tons that they're being reimbursed for. Instead of RTR claiming it and Four D claiming it, it would just be one number.

MS. LOWRY: So the same money would be paid out over time --

MR. KENNEDY: Yes.

MS. LOWRY: -- you're talking about it would just accelerate the payment, then?

MR. KENNEDY: It would accelerate the payment of the equipment at Four D, yes.

MS. LOWRY: Right. Of the capital expenditure --

MR. KENNEDY: Correct.

MS. LOWRY: -- is what you're talking about?

MR. KENNEDY: Yes.

MS. LOWRY: Okay. So that would not create any kind of strain on the fund, then, to have accelerated payments?

MR. KENNEDY: Correct. The payment would be the exact same every month, it would just hit

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their checkbook differently.

MS. LOWRY: Okay. Thank you.

MR. KENNEDY: Thank you for those questions.

MS. KINDRICK: I have a quick question. How many other entities would this impact?

MR. KENNEDY: So Oklahoma has technically four processors: it is RTR, Four D, they're combined, and it actually has Holcim and Geocycle, who are also combined, technically.

MS. KINDRICK: Okay.

MR. KENNEDY: Geocycle/Holcim is a wholly owned subsidiary of each other, and I believe that's how RTR and Four D is structured, as well. And the way that the proposition is worded is that it's an opt-in. They do not have to do this, it is if they so choose, they can.

MS. KINDRICK: Okay. Thank you.

DR. FERRELL: And to build onto Ms. Kindrick's question, my understanding is that going forward, if there were additional consolidations that this would just allow, again, that common control and ownership to basically treat that as one entity for reimbursement versus separate. Is that correct?

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MR. KENNEDY: Yes, only under the capital investment tier.

DR. FERRELL: Right.

MR. KENNEDY: The rest of the report that they submit, which is -- in RTR's case is, like, a giant box of reports that are thousands of pages long every month, would remain the same. It would just be that two or three pages that they would turn in for capital investment.

DR. FERRELL: Any other questions from the board? Any questions from the public? Just as a reminder to the board, what we are considering here would be a petition to initiate rulemaking. This would not be the actual rulemaking process itself, but basically to recommend that the agency begin the promulgation process to formalize this in regulation.

That being said, the Chair would entertain a motion to accept the petition to initiate rulemaking.

MR. MUNSON: So moved.

DR. FERRELL: A motion. Is there a second?

MR. TATUM: Second.

DR. FERRELL: Second. Any discussion from

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the board? Any discussion? Any discussion? Any discussion?

Seeing none, Ms. Fields would you please call the roll?

MS. FIELDS: Ms. Esteph?

MS. ESTEPH: Yes.

MS. FIELDS: Mr. Kinder?

MR. KINDER: Yes.

MS. FIELDS: Ms. Kindrick?

MS. KINDRICK: Yes.

MS. FIELDS: Ms. Lowry?

MS. LOWRY: Yes.

MS. FIELDS: Mr. Munson?

MR. MUNSON: Yes.

MS. FIELDS: Mr. Peterson?

MR. PETERSON: Yes.

MS. FIELDS: Mr. Tatum?

MR. TATUM: Yes.

MS. FIELDS: Dr. Ferrell?

DR. FERRELL: Yes.

MS. FIELDS: Motion passed.

DR. FERRELL: Thank you, everyone, for that report and for bringing this to our attention, we appreciate that. Hopefully, this will help us handle things in a more efficient manner going

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forward and we appreciate that.

Agenda Item 8 is the Operational Budget Request for FY 2028, and to present us with the numbers is Kathy Aebischer.

MS. AEBISCHER: Good morning, Kathy Aebischer, Director of Administrative Services. I know we just started Fiscal Year 27 and this seems like it's early, but budget request for state appropriations is due October 1st, so we're going to present our recommendation.

DEQ recommends approval for the agency to submit a budget request seeking up to $1,439,954 with the recognition that the final request may be amended downward to remain consistent with any directions provided by the Governor's Office, after board consideration, but before the budget request submission deadline on October 1st.

MR. SINGLETARY: So that caveat was necessary because in the past we had received direction from the Governor's Office after you all had approved our budget request, so in order for us to comply with both, we go ahead and add that in there.

MS. AEBISCHER: I'm going to go to the details of where we got that number. For this

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fiscal year, we got a reduction of over $2 million in our state appropriation funds, which is the smallest part of our budget, and this adversely affected those three divisions that get funded out of that money, and the savings for the OPERS kind of reform is in federal and our 200 fund.

So we are asking to restate that portion that was reduced this fiscal year as a result of the OPERS contribution reform. The FY27 reduction represents savings attributable to non-appropriated divisions and other agency funding sources rather than the reduction in the agency's underlying operational needs.

These savings were reflected as a reduction to the agency's appropriated funding; however, the associated costs and responsibilities remain necessary to maintain agency operations and fulfill statutory obligations, so restating this amount is necessary to maintain agency operations, and that's why we're requesting that this amount be given back to that pot of funding.

The other thing we want to request is one full-time position in the Water Quality Division, and this is requested for a dedicated biosolids coordinator to implement Oklahoma's

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Biosolids Program.

Currently, we have staff that's already fully -- has a full workload that's taking on these responsibilities, so after kind of analyzing their workload, they're requesting that we get one position dedicated to this function at a cost of $95,645.

So this year's appropriation is $19,671,000. We're asking for 1.4 to be added to the '28 federal fiscal year, with the total amount would be $21,110,954.

Any questions on this request?

DR. FERRELL: Any questions from the board? Any questions? Any questions from the public? Any further questions?

Well, seeing none, Chair would entertain a motion to approve the Operational Budget Request for FY 2028.

MS. KINDRICK: So moved.

DR. FERRELL: Motion. Is there a second?

MR. KINDER: Second.

DR. FERRELL: Second. Any discussion? Any discussion? Any discussion?

Seeing none, Ms. Fields would you please call the roll?

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MS. FIELDS: Ms. Esteph?
MS. ESTEPH: Yes.
MS. FIELDS: Mr. Kinder?
MR. KINDER: Yes.
MS. FIELDS: Ms. Kindrick?
MS. KINDRICK: Yes.
MS. FIELDS: Ms. Lowry?
MS. LOWRY: Yes.
MS. FIELDS: Mr. Munson?
MR. MUNSON: Yes.
MS. FIELDS: Mr. Peterson?
MR. PETERSON: Yes.
MS. FIELDS: Mr. Tatum?
MR. TATUM: Yes.
MS. FIELDS: Dr. Ferrell?
DR. FERRELL: Yes.
MS. FIELDS: Motion passed.
DR. FERRELL: Very good. Thank you, Ms. Aebischer, appreciate that.

All right. Item 10. And our next few agenda items are actually to give us kind of a heads-up on some rulemaking coming down the pike.

I'm sorry, Kathy. I'm so sorry, I apologize. You weren't done, please continue. I am so sorry.

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MS. AEBISCHER: Now we're back into FY27. So this is my longer presentation to kind of give you an overview of the FY27 budget and what it's based on.

So as I discussed in our request, our General Appropriations base was reduced a net 1.7, which was 8.3 percent of those funding sources. So we put in a request last year a flat budget, and they reduced it -- what happened was they reduced it over $2 million for the OPERS contribution reform.

What the legislature did was they reduced the contribution into the state retirement fund from 16.5 percent to 9 percent. So it decreased the cost to the agency, so they took all of that for the whole agency out of our state appropriations.

They also did a 50-percent increase in longevity pay. Those are the tiered amounts that employees get on their anniversary date, they get a longevity payment based on their years of service. So that netted to a 1.7 decrease in our General Appropriations.

So in comparing FY26 to FY27, our total budget was $241 million. For '27 our budget's $137 million, and that's before we move all of the

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unspent money from '26. So we didn't really get a cut on that much, it is we're going to move forward the PREP Funds, and remember we got $70 million, for Guymon Mesa Water Project $20 million and we got $50 million for the Tulsa Levee. So as you know, those are large projects so they'll be over the next several years as they pay out.

So we'll be moving those funds forward, and also we have a balance of RIG funds that will be moved forward, and the remaining balance for our parking garage will be moved forward, they gave us funds in '25 for that.

So I'll go through each division and how they're funded. So Air Quality Division, their revenue projections for '26, they projected 13.9 and they collected $13,974,000, so 99 percent of what they projected.

For '27, projecting $12.6 million. What we had to do because of the $2 million reduction in state appropriations for the other three divisions, we had to have other agency funding to support them. So $2 million of the Air Tire Funds is going to the other divisions to support that decrease.

And they're projecting about $600,000

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more in some of their Nontitle and Title V Fees. And so their Revolving Fund projected of $12.6 million, carrying over $2 million Federal Grants estimated to be $5.9 million, Volkswagen Settlement Funds of 5.7, so Total Funds for Air is $26 million.

Their '27 budget is $22 million, and you'll see the projects ECLS is doing for Air of $431,000, and the Lab, 188, and then Indirect of $3.6 million.

So their budget, FY26 is $27 million, for '27 it's $22 million. The difference is mainly in their Volkswagen DERA projects just estimating to do less this year.

For Land Protection, they've estimated $13 million in '26, they collected $15.6 million, so really, collections were really good for '26. In '27, they're projecting $13.3 million, about a $200,000 increase in their Hazardous Waste fees.

Their budget, Revolving Funds of $13 million, Carryover of $3.7 million, Federal Fund grants of $19 million, so Total Funds of $36 million. Land's budget is $32 million, ECLS is doing $898,000 of projects, and the Lab, $570,000, with $2.6 million for Indirect Costs. Their budget

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in '26 was $29 million, for '27, $32 million. Their increase is because of grant-funded projects for '27 has increased.

For Water Quality, '26 they had 8.9 projection in revenue, then collected 10.6, so 120 percent of projections, and for '27 they're projecting $9.2 million with some funding sources, about an increase of $345,000.

Revolving Funds for '27 is $9.2 million, Carryover from '26 is 6.9, Federal Funds $13 million, State Appropriations of $14 million, Total Funds $43 million. '27 budget for Water is $38 million, ECLS Water Projects for 1.2, the Lab $500,000, Indirect Costs of 3.8.

So total budget, '26 was $43 million, for '27 it's $38 million. The difference, the reduction in OPERS we're going to see in the salaries of the $400,000 and decrease in rural water projects due to less Carryover of funds on their RIG projects.

ECLS Revenue Projections, '26 was just over $3 million, they collected 140 percent - the amount's not right - of projections, so they did really well in '26. They increased their projections to 3.1, mainly Private Sewage is the

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revenue source that's going up.

All funding sources for ECLS, Revolving Funds of 3.1, Carryover from '26 is $2 million, Federal Funds $2.2 million, State Appropriations, 2.7, and then the Land Protection work of $898,000, Air Quality work of $431,000, and Water Quality work of $1.2 million, for Total Funds of 12.8. Their budget will be $10 million, with 2.5 for Indirect Costs.

ECLS's '26 budget was $3.2 million, for '27 it's $10 million. Decrease is due to the OPERS reform, and then also a decrease due to a one-time IT project that was done in '26.

For the State Environmental Lab, their projections for '26 is 2.1, projections for '27 went down 1.9, and that's mainly a timing. Land gave $300,000 per year, but it came in at the first of the year for last year, so it's not going to be a true decrease, which is good.

The Lab All Funding Sources, Revolving 1.9, Carryover 1.9, Federal Funds 1.8, State Appropriations $3 million, work they're doing for Land, $300,000, for Air Quality, $188,000, Water $504,000, so Total Funds of 9.5. Their budget is 7.9, and 1.6 going to Indirect Costs.

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For '26, the State Lab budget was 7.6, and for '27 it's 7.9. Increase for this fiscal year is an increase in IT project for an upgrade to their LabWare system.

For Administrative Services and IT budget, so total IDC from all funding sources $14 million, Carryover from '26 of $4 million. We received $70,000 for doing Accounting Services for OSEE, Federal Grants of $17,000, License Tag Grants of $10,000, Penalty Fees about $400,000. So Total Funds of $19 million, ASD budget of $19 million, with Indirect Costs of $25,000.

Budget for '26 was $21 million, for '27 it's 19. Mostly, the decrease is for the OPERS reform and then IT projects, we did more IT projects in '26 than we're projecting for this year.

MS. LOWRY: I have a question. Where you show a reduction for salaries and other compensation expenses due to the OPERS reform, but you're moving $2 million from Air Quality over to the three other sections, so did the cost actually go down and then the OPERS reform just went too far, is that why you're showing a reduction, but also having to repay it?

MS. AEBISCHER: Every division is going to

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show a reduction in costs in the salaries, it's just that only three divisions are funded in state appropriations and they've reduced us for the whole agency, so we had to use the Air Tire to support other expenditures to the other three.

MR. SINGLETARY: So essentially, there will be a little extra federal funds in some of these federal programs, but we couldn't -- we don't have that same reduction in -- so the way the legislature did it, they looked at the entire agency and they reduced -- the contribution that was required to OPERS, they just reduced our appropriations by that amount.

But that appropriations doesn't go to fund the federal programs, so we're having to -- we'll have an excess in those federal programs, but those other areas, you know, the state-appropriated dollars, that's where the money actually allocated from the legislature will actually come into play.

So we had to kind of fill in those holes with that Tire money for those other programs. Does that make sense?

MS. LOWRY: So that's -- I believe I understand, but -- okay. So you see that as a continuation for future budgets, then, the movement

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of, you know, $2 million or whatever from that Tire Fees over to pay for this?

MS. AEBISCHER: Not if they fund us what we request. So that first part is what we're requesting, is to just give us back the money that's attributable to the other funding sources, not the whole $2 million. That's why we just asked for the 1.4, is just to kind of reinstate the funds back to that funding source.

MR. SINGLETARY: So the appropriated programs, when they reduced the appropriation across the board, they got hit twice as hard. So they're having to build a -- bear the brunt of the federal programs because we can't just shift around those federal dollars.

So the Tire money has a provision that allows us to use that for other environmental programs, and so we're able to use that funding to help offset that shortfall in the appropriated programs.

MS. LOWRY: So does that also cause a reduction in the services for Air Quality, then, by $2 million?

MS. AEBISCHER: No. Yeah, those funds are not being used to support their main operations.

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And luckily they're projecting a $600,000 increase in fees, and we're hoping that the legislatures do reinstate those funds so that it can go back and not have to be, you know, this going forward.

MS. LOWRY: Okay. Thank you.

MS. AEBISCHER: You're welcome.

MR. SINGLETARY: In fact, it might be a good time to mention that we have authorized two additional permit writers for Air Quality, so we're pulling some pins that we had reserved to help fund those additional programs, so the funding for Air Quality's in good shape right now.

MS. LOWRY: Okay. Thank you.

MS. AEBISCHER: And this is just the update for FY '27 on one month. So collections just in July is $7.3 million, and that's mainly Air fees, they come in the first of the year and they're, like, killing it in one month, so we're already 18 percent of our total projections for the year that's been collected. Compared to last year, we only collected 1.6, a total of 3.9.

And because we've invested in the -- if you remember, the IT project for Accounts Receivable salesforce, which is our invoicing and billing, we have really been seeing our funding

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really coming in and very timely, so that's why the fees are really showing up and then -- just in one month, and most of the expenditures of $4 million is in payroll.

And then the Funding Sources expending 4.3, mainly in 200 Funds. That's it.

DR. FERRELL: Anyone have any questions? Any questions from the board?

MR. KINDER: I just want to make a comment. Thank you, Kathy. I'd made a request to have you change the report up a little bit and give us less acronyms and more labels and fill it out.

MS. AEBISCHER: Yes.

MR. KINDER: I've noticed, so thank you for that, it makes it easier.

MS. AEBISCHER: I listen.

MR. KINDER: I know, it makes it easier for this old board member and some of the new board members to keep up, so thank you.

MS. AEBISCHER: Absolutely. Anyone else needs additional information, just let me know, we can add it on there.

DR. FERRELL: Any other questions from the board? Any other questions from the public? Ms. Aebischer, I will apologize. I realized what I was

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doing is looking too far down my agenda, I did not see Agenda Item 9. I apologize, I will do my penance on the way back home. Do not cut Kathy off.

MR. SINGLETARY: Mister Chairman, I just want to kind of highlight one thing Kathy did say, and one of the reasons our revenues are looking so good are the improvements made to our accounts receivable process. It was pretty antiquated, what was going on before, so it's really helped.

And I mean, it's fun when you can see a project like that bear fruit and you can actually see it in the numbers and the collections and --

DR. FERRELL: I will, first off, say that Ms. Aebischer may have undersold that migration effort, that's no small feat. And a lot of that has been happening at the agency, but it's been done very well, thanks to Kathy's guidance, so we very much appreciate her for that. And as Mr. Singletary observed, it's putting money in the coffers where it can be used to do good work, so we're very appreciative of that.

We have been sitting for approximately an hour and a half and there is still some program left on the agenda, so without objection, the Chair will call for a five-minute

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recess. We'll try to keep it brief and get back on track, but without objection, without objection, without objection?

MR. MUNSON: Mister Chairman, did we need to take any action on Agenda Item No. 8 or have we already done that?

DR. FERRELL: We have done that and --

MR. MUNSON: We did?

DR. FERRELL: Yes.

MR. MUNSON: Prior? Okay. I just wanted to clarify.

DR. FERRELL: And the budget report is informational, no board action required, but thank you for keeping an eye out, we appreciate it.

Without objection, without objection, without objection, we will be recessed for five minutes.

(Break taken from 11:06 AM to 11:15 AM)

DR. FERRELL: All right. Our meeting is called back to order. We are now, I believe, to Item No. 10 on the agenda, and our next few rulemaking items are to give us a heads-up on some rulemaking coming our way in the not-so-distant future, but to help us with that is George.

George, you have the floor.

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MR. RUSSELL: Thanks, Dr. Ferrell and Members of the Board. George Russell, Water Quality Division Director at DEQ. So just to start with this is rulemaking, but it's just for informational purposes today, so no votes needed.

As we kind of transition into a life without the council, this is what we used to do with the council before, we'd give them -- prior to the voting council period, we would have an informational kind of presentation, which is what I'm going to do today, and it also kind of puts it out there and lets us work through any potential hiccups or roadblocks we might run into.

So I want to give you a little bit of history before we get into some of the text, which is, so we originally presented this to the Water Quality Council in September last year, so about a year ago. And as we were presenting it, we got some concerned stakeholders, we had some feedback that there was some confusion about the rules, what this actually meant for the regulated community.

And so as we went through some of those concerns and talked about it, we decided to pull it before we actually voted on it, so -- and what we did is we got everybody back together, we

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met with those concerned stakeholders like Bud, and he represents EFO, he's back here today, and him and some of his members of EFO participated in those workgroups that we worked through, along with some of the council members - former council members - and then other stakeholders that were involved.

And the goal there was to reach consensus on, like, hey, what are we doing here, what is the impact here, what can we do to move forward and still be beneficial to everyone, and we feel we're at that point now and have done that.

So we're going to look through three different chapters, and the way this works -- so we already filed the Notice of Rulemaking Intent, which I think you guys have a copy of, and we're going to move through two more informal public meetings, which is what we historically do, happening here in the next few weeks in early October and then a formal public meeting October 16th, prior to the November board meeting.

So we'll have those board meetings still coming up or those meetings still coming up where we can actually give a good presentation and show what the changes are and walk through it, and then also some of the people that were involved in

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those stakeholder meetings can show their support, hopefully, for us, as well.

If anybody is interested, I invite y'all to attend those meetings, as well. Definitely our former council members will be attending those and providing their expertise as we work through that.

I do want to say that some of this -- you mentioned Water Quality Standards in reading through the rules last time, Dr. Ferrell, but these are Water Quality Standards Rules, this is part of our training and review.

Some of the changes are pretty technical in nature, which is why we had to kind of go through that outreach and work through those a little bit, and I'll do my best to answer today, but we didn't have our kind of subject matter experts come up with us. So they will be present at the Ada board meeting when we go to a vote, but I'm open to any questions that you do have and I'll try my best.

So getting into Chapter 606, the biggest one kind of -- and this is across the board for all three chapters 606, 730 and 740. We changed the "7Q2" to "Regulatory low flow", and that's across the board as we brought in selenium as a new

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parameter for Water Quality Standards, that calculation changes to a 30Q2. And so rather than change each one specifically, for all the different calculations it's "Regulatory low flow".

So for most of the Water Quality Standards 7Q2 is going to be correct, but when you get to the fish tissue it's a 30Q2, which is a 30-day as opposed to a seven-day kind of low flow period. So that's going to be -- if you look through the strike-through text, that's going to be -- there might be 100, 150 of those through kind of the regulations.

Also for 606, we added a statement that prohibits the reduction of monitoring in receiving waterbodies that are impaired for specific parameters. Say a waterbody is impaired for mercury, you can't reduce that mercury monitoring that you would normally do, which happens in a lot of the other parameters.

And then also, Appendix L in Chapter 606 was updated to include the equations for these proposed selenium criteria that we'll get into a little bit more in Chapters 730 and 740.

That's pretty much it for 606. There's not a ton on that one, but any questions on

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Chapter 606?

DR. FERRELL: Any questions for Agenda Item 10? Any questions? Any questions from the board? Any questions from the public? Very good.

MR. RUSSELL: All right. To the next item, Chapter 730. So Chapters 730 and 740, we're required to update these triennially, and so this was part of that that we got into. And again, we'll come back every three years and you'll get to hear more about Water Quality Standards again as we try and update the program and update EPA recommendations along with that as we work through those.

So the changes for Chapter 730, I'm going to have to read off some of these, just again I said they're pretty technical in nature, but we added definitions for 7Q2 and 30Q2, the Bioaccumulation Factor, Biotic Ligand Model, and Regulatory low flow.

And then for Coliform group organisms, we clarified that measurements of bacteria can be expressed as either colony-forming units, CFU, or most probable number, MPN, and those are what's used for some calculations.

And then we also included definitions

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for sensitive representative species to clarify that chosen species may be indigenous to that particular waterbody or that they're surrogates that can be used for those indigenous species if that's what's necessary.

Moving to Subchapter 5-16, Primary Body Contact Recreation, DEQ is proposing to replace confidence intervals with geometric mean and statistical threshold values. And this applies to both E. coli and Enterococci, but the Numeric criteria have not changed, it's just the way that we go about them.

And then for Secondary Body Contact Recreation, we're proposing to add Numeric criteria for E. coli and Enterococci based on EPA's water ingestion formula, so it's a recommendation that they have and we just adopted that.

I didn't go through all the minor editorial and grammatical and typographical errors, but there are some of those in Chapter 606 and 730. Particularly, you know, as we adopted these from the water board and we rolled them into our own regulations, there was a lot of things that we had to tweak and change different references, so...

But moving on to the appendices,

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which there's quite a bit of changes in these. Appendix A, we updated the names of two waterbodies. Appendix E updates the methods for development of site-specific criteria to add the Biotic Ligand Model and Multiple Linear Aggression Model as additional methods.

We're also proposing requiring the use of a fish tissue study for selenium site-specific criteria and removal of site-specific metals criteria that were not approved by EPA.

Just for a note, one thing that's interesting with the Water Quality Standards as we move into the future -- I think historically, like, the Water Quality Standards were, like, X parameter, the number is Y.

As we move into these -- kind of the future, it's a lot more site specific and then model specific where you take in a lot of different factors to come up with that Water Quality Standard. So I think there's going to be more of these, like, models and progressions that are going to be needed as we continue to move forward, and we'll work through those as we get to them.

For Appendix F, we removed segment averages that were not approved by EPA previously.

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And then Appendix G, we are proposing the recalculation of some criteria and the addition of Aquatic Life and Human Health Criteria based on EPA's recommended values.

And then the biggest kind of hiccup we had from the last one, Appendix H was inadvertently left out when it was uploaded to the Register and then -- so we're going to add Appendix H back to Chapter 730, which will be good.

All these things, like I said, we worked through with the stakeholder group, with the different parties, and I think we're at a good place right here. So that is it for Chapter 730, if you have any questions there.

DR. FERRELL: Any questions from the board on Agenda Item 11?

MS. LOWRY: I have a question.

DR. FERRELL: Yes, Brandi.

MS. LOWRY: Where you say "requiring the use of a fish tissue study for selenium site-specific criteria", but then in the text it says that if you have the fish tissue study, then you have to use it, is there a scenario where you have to do a fish tissue study for selenium or is it just if you have it, you have to use it?

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MR. RUSSELL: Yeah, if you have it, you have to use it, but you can also do a water column study, as well, if you don't have the fish tissue available.

MS. LOWRY: Okay. So just to clarify, you wouldn't have to do a fish tissue study?

MR. RUSSELL: Correct.

MS. LOWRY: Okay. Thank you.

MR. RUSSELL: And a fish tissue study was something that was actually requested by one of the stakeholders as an option, they thought it would help them out with their limits.

MS. LOWRY: Okay.

DR. FERRELL: Any other questions from the board? Any questions? Any questions from the public?

Very good. That moves us to Item 12.

MR. RUSSELL: Okay. Chapter 740. Same thing, this update is to comply with the triannual review requirements for Water Quality Standards. We updated all the same definitions that needed to come across, and then we also included that definition of a selenium fish tissue study, so what that entails.

We also are proposing language that adds fish tissue criteria as the preferred method of

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assessing waterbodies for selenium, with water column criteria being used if fish tissue is unavailable. So hopefully that answers your question, Ms. Lowry, there, as well.

And then in Subchapter 15, language for selenium is included and states, "the Fish and Wildlife Propagation beneficial use designated for a waterbody shall use fish tissue data as the preferred method for assessment and listing purposes if such data is adequate and available".

Another proposed update includes adding criteria values for the assessment of Secondary Body Contact Recreational Support. Similar to the other chapters, minor editorial, grammatical, and typographical corrections and corrections to some references that I didn't specifically mention. And we also worked through this chapter with those stakeholders mentioned previously.

So I know I probably went through that pretty quickly, but that's where we're at. And I'm really proud of the work that our team has done, they really did take this seriously with the goal of reaching consensus with those folks that were involved and had concerns and conducting outreach

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and education and also, like, taking what they wanted and to factor that, as well, while we're still trying to benefit all the citizens of Oklahoma as much as we can, so...

DR. FERRELL: Any questions from the board? Any questions? Any questions? Any questions from the public?

Is that a question, Bud, or are you just being present? Mr. Ground?

MR. GROUND: It is not a question, it is a statement. My name is Bud Ground, and currently I'm the President of the Environmental Federation of Oklahoma, which I'm sure you've heard of. But we do, as an organization, look after our member companies to make sure that we can comply with the rules of the DEQ, and so that's why we get involved.

And I just want to make the statement, which I could have under any of the three, 606, 730, and 740, of how well the DEQ has worked with us, with George bringing the group together.

We brought in some professionals that didn't actually come to the state, but through virtual means, some professionals in this area and across the country, and I think we came up with a

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much better set of regulations to help our member companies stay in compliance and have alternative forms of compliance like the fish tissue studies.

That is actually probably the main reason that you're even talking about this today is that another organization with the State would not even consider allowing a fish tissue study to be used to help in compliance determination.

So that's why we worked to get that program within DEQ, and I want to thank George and I want to thank his staff, they've been very good to work with, Rob, really the whole group, and I want you to know that just as a board that that's been going on, like he said, for a year, and it's not over.

And even there were some things that we couldn't even really completely come into agreement or fully understand how we should implement it and so we put that off a little bit. The things that we could agree, it's all going in the rule.

So I just wanted to let you know that as -- you know, from the Environmental Federation of Oklahoma, why we're here, and to the board, and we thank you and we thank the DEQ and George and his

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group. So, did you know? There's my question.

DR. FERRELL: We do now. Well, and I -- first off, Mr. Ground, thank you very much for those comments. And actually, you took the words right out of my mouth because what I was going to say is I've been very impressed with the work of the agency with, you know, Water Quality and the other divisions, as well, in working with our regulated community.

Since the veto of House Bill 3007, we've kind of been caught in a lurch, but I think our saving grace has been the remarkable culture of compliance-first attitude on the part of the agency and a real willingness and desire to engage with the regulated community, which is making this a lot easier than it could be under the circumstances. So we really appreciate the collaborative work you all have done on this, which is a very important topic for the state, obviously.

Any other questions or comments from the public? And again, these are all informational items, so no action from the board is required, but we sure appreciate you taking the time to bring us up to speed on those issues, thank you very much.

That should bring us to Item 13 on

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the agenda, the Federal Update with Ms. Madison Miller.

MS. MILLER: Good morning. So at the request of the board, I have put together this document, and it is in your packet. It's a chart that contains -- I'm not going to go through all of these rules today, just so you know. It contains all of the rules that I have mentioned in the last year or so and the ones that we are tracking most.

There are other rules out there that are maybe more specific to source categories, and so I say all that because if there's something that's not on the list that you want to see on the list, please let me know and I will include it. This is for you and for your information, so if you have any feedback about the way that I'm presenting this information, please let me know and I will adjust accordingly. So this is meant to be a living document and I will add to it and I guess potentially subtract from it, maybe, going forward.

And so I'm just going to launch right into it. Again, I'm just going to hit some high points of the things that actually have updates from the last time we spoke.

So, PFAS NPDWR rescission, that's

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where EPA has proposed to rescind four of the PFAS that it previously finalized MCLs for at 4 parts per trillion. Just a little update on that, but still worth mentioning that in that litigation the oral argument has been scheduled for September 18th of 2026. So it has been briefed, and once the oral argument goes forward then the court will eventually rule on the merits of that case.

So going forward to the UCMR 6, we have previously discussed that because the CCL 6 included microplastics and pharmaceuticals, there was some speculation that maybe the UCMR 6 would, also. And it was proposed after our last board meeting and it did not include microplastics or pharmaceuticals, which I guess just, you know, implies that EPA intends to continue to study those constituents, but not intending to go forward with monitoring them at this point.

For the Lead and Copper Rule Improvements, the EPA has come out with some guidance documents for determining access and control of the replacement of service lines that are on the private side on the other side of the meter, and there has been some discussion, we have been -- we are discussing with EPA how to implement that

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because it's been a little bit of a stumbling block for systems.

Going into the Clean Water Act section, EPA released for public comment the draft guidance for reducing risk from PFOA and PFOS in biosolids. So this is out for public comment until October 5th of 2026, and it's different guidance.

So if you recall, I have this in the summary of action, a draft guidance was released on January 14th of 2025, and that is a different guidance from what EPA released in July of 2026. It acknowledges existing approaches that states have chosen to take for handling biosolids and makes recommendations for what practices could be implemented by both municipalities and public citizens to reduce exposure to PFAS and potential risks.

So I'm just going to quote from this document a few things. So EPA kind of criticizes the previous guidance. It says that in that 2025 guidance, EPA departed from typical agency practice by failing to conduct a national survey to document occurrence of PFOA and PFOS in sewage sludge.

It says EPA, in the 2025 assessment, only evaluated sewage sludge management practices

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with higher potential for human health risk in hypothetical scenarios that do not reflect the majority of land application in the U.S.

And it says that the 2025 preliminary findings suggested that sometimes, risks of adverse health affects were possible when using or disposing of sewage sludge containing 1 part per billion of PFOA or PFOS, and the use of 1 part per billion was not intended to be interpreted as a safe level of PFOA or PFOS in sewage sludge in all circumstances.

So EPA says that because of the agency's previous focus on higher-risk scenarios, a misconception has arisen that all biosolids in sewage sludge use and disposal practices will negatively affect the public.

And then EPA goes on to make these recommendations for reducing risk, and in particular states that land appliers can consider four practices to avoid application near fishable waters or drinking water sources, avoid applying biosolids where children under the age of 5 will have access to or may have access to in the future, apply biosolids on crops with lower risk of human exposure, such as for ethanol production, and avoid land application for agricultural practices with

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higher risk for human exposure. So those were all just quoted directly out of the document, I wanted to bring your attention to that.

The Waters of the U.S. Rule, we actually got an update on on September 4th after I prepared this document. So EPA announced on September 4th with the Department of Army that it was going to release a supplemental notice of proposed rulemaking, which it actually published in the Federal Register this morning.

And in brief, that provides -- that supplemental notice provides additional options for definitions of relatively permanent and continuous surface connection, and it adds a proposed definition of perennial. And EPA states that it does not alter the previous proposal, which remains under consideration as well, and DEQ is reviewing that publication.

And Rob mentioned that we met with EPA yesterday, and we got a couple of updates out of that meeting, as well. So for 401 certification, we are -- we understand that there's an imminent release of that Final Rule, it's been with OMB.

In the CERCLA context, there is a litigation update there for the PFAS as a hazardous

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substance under CERCLA. The D.C. Circuit denied petitions to vacate that rule, so that rule remains in effect. That litigation had been ongoing since EPA finalized that rule I believe in 2024 -- yes, it says that in the document. So we had been tracking that, and that rule remains in effect unless it's appealed to the Supreme Court of the United States.

So going into the Clean Air Act, I've got a couple updates that are not related to federal rulemaking, but more related to state implementation of federal rulemaking.

So the rescission of the Title V Emergency Affirmative Defense Rule, I wanted to bring your attention to the fact that -- so what happened was that's a Final Rule. EPA basically, with their most recent Final Rule, said that the Title V Emergency Affirmative Defense provisions can be in state rules.

Previously EPA had said they cannot be in state rules, so DEQ removed them from our rules and the board saw that rulemaking to remove those provisions in November of 2024. That rulemaking action has not been submitted to EPA in a SIP yet, and so we are considering the possibility of reinstating those provisions in our SIP, so just

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an update on that.

And then in the Greenhouse Gas Endangerment Finding context, we -- DEQ has been looking at this very closely since that rule was finalized, and without the Endangerment Finding and the subsequent permitting policies that were in place as a result of the Endangerment Finding, DEQ doesn't have the authority to require carbon dioxide or carbon dioxide equivalent submittals for PSD purposes.

So -- but you know, previously DEQ has been -- the applications that are submitted to DEQ for PSD permitting have contained carbon dioxide and carbon dioxide equivalent emissions numbers, and DEQ has evaluated those under PSD and we are discontinuing that as a result of the Endangerment Finding rescission.

However, if companies want to continue to submit those numbers to us and to continue to have DEQ evaluate those numbers as part of the permitting process, we will do that if the company wanted to, while the litigation plays out.

And I said last time, at our last board meeting, that I'd be surprised if this didn't go to the Supreme Court and I'm sure everybody else

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would be surprised, also, if it didn't. So while that litigation's playing out, if companies want to continue to submit that to DEQ for cover under the Clean Air Act, we will continue to evaluate it.

The NSPS OOOOb and OOOOc, I got an update from EPA yesterday. They said that a fully reconsidered rule for OOOOb and OOOOc is imminent for publication, a proposal. It has been sent to OMB and it sounds like it will substantially alter our OOOOc obligations. If you recall, that is the requirement to -- for the state to develop emission guidelines and to have to submit them to EPA.

We began the process of doing that in 2024 because the process of getting emission guidelines approved by EPA requires public -- a public meeting and then going through the rulemaking process. So DEQ began that in 2024 and discontinued that process when EPA indicated that it would no longer pursue that rule and that it would change the rule. We've been waiting for a while and we have been told that that is an imminent rulemaking that will significantly alter our obligations.

The carbon pollution standards repeal or Clean Power Plan 2.0 we understand is with OMB for a Final Rule. And 2024 PM2.5 NAAQS, there was a

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litigation update on that, the D.C. Circuit denied the consolidated challenges and requests to vacate that 9 micrograms per cubic meter ambient standard for PM2.5. So that standard remains effective. It has been petitioned to the Supreme Court to review it, but Oklahoma remains in attainment with the 9 number.

And that is all I have prepared to update on, so if there are any questions, I will take them.

DR. FERRELL: So moving back to the discussion of the Emergency Defense Rule under Title V permitting, which we did pull out because we didn't think we could have that, apparently now maybe we can.

If -- since that SIP has not yet been submitted, but since there has been board action taken on that step, I presume that what we would need to do is we would need to have additional board action to reinstate that defense back for consideration of the SIP. Is that correct?

MS. MILLER: That's correct. So technically, it's still federally enforceable because it's in our SIP and it's approved by EPA in our SIP, but it's not on our state rules.

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DR. FERRELL: Gotcha. Thank you.

Any other questions from the board? Any questions from the board? Any questions from the public?

Well, Ms. Miller, this is fantastic. Thank you so much for compiling a list, it is a very dynamic federal policy environment. We very much appreciate this very concise, easy to understand, and distilled summary. It's fantastic, thank you very much for that.

MS. MILLER: Of course. Thank you guys so much.

DR. FERRELL: All right. That, I believe, brings us to Item 14, which are the annual employee disclosures. Mr. Allen?

MR. ALLEN: Thank you, Chairman. This time of year every year, we are required by Title 27A Section 2-3-101(C) to disclose -- all employees in certain positions of enforcement or permitting to disclose any interests they have in regulated entities, and that can be employment, it can be ownership of stock, it can be lots of different things.

It doesn't necessarily mean that there's anything illegal to report, but we're

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required to disclose it every year. And employees are only required to disclose it once and they only repeat the disclosure if it changes.

So this year, we have two employees, Hillary Young with LPD and TJ Wall with AQD, and the regulated entities involved are both oil and gas companies, they're both -- in one case it's mineral interests -- well, actually they're both mineral interests, one inherited, one acquired by the spouse, but those are the type that need to be disclosed.

And the way that they're handled once they're disclosed is that DEQ, if there's any action or permitting decision made involving either Continental Resources or Troy Energy, the employee who's made that disclosure will have no participation in any of those decisions and that's what the law requires.

So in accordance with statute, we are supposed to make this disclosure part of the minutes of this meeting. And so if you have any questions, I'd be happy to entertain them.

DR. FERRELL: Any questions from the board? Any questions? Any questions? Any questions from the public?

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Well, again, this is an informational item so no board action is required. Thank you, Mister Jonathan.

All right. That brings us to Agenda Item 15, setting our board dates and locations for 2027. In your packet, you will find a historical listing of where we have met in the past and the proposed locations for 2027.

I am very, again, proud that we're here in Guymon because although you see a star for Guymon on the map, you'll notice that it's not listed anywhere, which means it's been over 20 years since we've been out here, so I'm glad we could remedy that.

But as you can see, the proposed locations and dates for 2027 are for Wednesday, January 20th, to be located in Oklahoma City at DEQ, the same for Tuesday, June the 8th, then Wednesday, September 8th to be held in Weatherford, Oklahoma, and Tuesday, November 9th for McAlester.

First off, is there any discussion about the proposed dates and locations? Any discussion? Any discussion? I see that Ms. Esteph is not moving towards her microphone, so Mr. Kinder, you are recognized.

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MR. KINDER: Yes. I'd like to propose a consideration for Broken Bow, we haven't been there in a while. If you look on the map, it's directly opposite of Guymon. So I think trying to be, you know, on average would be like in Oklahoma City, I guess, wouldn't it be? So I'll just make that comment for -- I don't know if it needs to be a motion or a proposal.

DR. FERRELL: I believe the Chair will accept that as a motion to change the location for the November 9th meeting to Broken Bow. Is there a second?

MR. TATUM: I'll second.

DR. FERRELL: Second by Mr. Tatum.

So we currently have before us a motion for the slate as presented, with the amendment that the Tuesday, November 9th location would be moved to Broken Bow.

Is there any discussion? Any discussion? Any asking you? Any questions from the public?

All right. Seeing none, Ms. Fields would you call the roll?

MS. FIELDS: Ms. Esteph?

MS. ESTEPH: Yes.

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MS. FIELDS: Mr. Kinder?

MR. KINDER: Yes.

MS. FIELDS: Ms. Kindrick?

MS. KINDRICK: Yes.

MS. FIELDS: Ms. Lowry?

MS. LOWRY: Yes.

MS. FIELDS: Mr. Munson?

MR. MUNSON: Yes.

MS. FIELDS: Mr. Peterson?

MR. PETERSON: In spite of the abundance of trees, I vote yes.

MS. FIELDS: I'll take that as a yes.

Mr. Tatum?

MR. TATUM: Yes.

MS. FIELDS: Dr. Ferrell?

DR. FERRELL: Overcoming my crippling feeling of claustrophobia in trees and things that spark and water, I will vote yes, also.

MS. FIELDS: Motion passed.

DR. FERRELL: All right. Pack your bags, folks. We're heading to the other end, coming to you in 2027.

All right. That brings us to Agenda Item 16. The Open Meetings Act, in Section 307 of Title 25 of the Oklahoma Statutes, authorizes the

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board to enter into an executive session to discuss a pending investigation, claim, or action if it determines, with the advice of its attorney, that disclosure will seriously impair the ability of the board to conduct the investigation, evaluate the claim, or prosecute the action.

And we have been informed that there are items that do require our attention which would be most appropriately addressed in an executive session. So with that, the Chair would entertain a motion to convene in executive session to discuss those matters.

MR. PETERSON: So moved.

DR. FERRELL: We have a motion. Is there a second?

MS. KINDRICK: Second.

DR. FERRELL: Second. Any discussion? Any discussion? Any discussion?

Seeing none, we will proceed to roll call vote, Ms. Fields.

MS. FIELDS: Ms. Esteph?

MS. ESTEPH: Yes.

MS. FIELDS: Mr. Kinder?

MR. KINDER: Yes.

MS. FIELDS: Ms. Kindrick?

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MS. KINDRICK: Yes.

MS. FIELDS: Ms. Lowry?

MS. LOWRY: Yes.

MS. FIELDS: Mr. Munson?

MR. MUNSON: Yes.

MS. FIELDS: Mr. Peterson?

MR. PETERSON: Yes.

MS. FIELDS: Mr. Tatum?

MR. TATUM: Yes.

MS. FIELDS: Dr. Ferrell?

DR. FERRELL: Yes.

MS. FIELDS: Motion passed.

DR. FERRELL: With that, we will need to designate an individual to keep minutes during the executive session. Do we have any volunteers? Oh, we have a willing volunteer, someone who can actually write with penmanship better than mine. Very good.

With that, will be convening in executive session and we will inform you as soon as we have returned to open session by a vote. Board Members, if you'll proceed up this way and slightly to your right, there's a room for us to meet. We will be convened in executive session.

(Executive session convened 11:49 AM to 12:25 PM)

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DR. FERRELL: The Chair would entertain a motion to reconvene in open session.

MS. ESTEPH: I make a motion that we reconvene in open session.

DR. FERRELL: So moved. Is there a second?

MR. TATUM: Second.

DR. FERRELL: We have a motion and a second. Any discussion? Any discussion? Any discussion?

Seeing none, Ms. Fields, would you please call the roll?

MS. FIELDS: Ms. Esteph?

MS. ESTEPH: Yes.

MS. FIELDS: Mr. Kinder?

MR. KINDER: Yes.

MS. FIELDS: Ms. Kindrick?

MS. KINDRICK: Yes.

MS. FIELDS: Ms. Lowry?

MS. LOWRY: Yes.

MS. FIELDS: Mr. Munson?

MR. MUNSON: Yes.

MS. FIELDS: Mr. Peterson?

MR. PETERSON: Yes.

MS. FIELDS: Mr. Tatum?

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MR. TATUM: Yes.

MS. FIELDS: Dr. Ferrell?

DR. FERRELL: Yes.

MS. FIELDS: Motion passed.

DR. FERRELL: All right. That will now bring us to Item 18, New Business, any matter not known about and which could not have been reasonably foreseen prior to the posting of the agenda.

Is there any new business? Any new business? Any new business?

All right. Item 19, our Next Meeting. Our next regular meeting will be held November 10, 2026 at 9:30 a.m. in Ada, Oklahoma, at the Robert S. Kerr Environmental Research Center, which is another crown jewel of our state. So I'm very excited about that, mark your calendars.

With that, we now come to Item 20, which is Adjournment. Is there a motion to adjourn?

MR. MUNSON: So moved.

DR. FERRELL: I have a motion. Is there a second?

MS. ESTEPH: Second.

DR. FERRELL: Motion and a second. Any discussion? Any discussion? Any discussion?

Seeing none, Ms. Fields?

MS. FIELDS: Ms. Esteph?
MS. ESTEPH: Yes.
MS. FIELDS: Mr. Kinder?
MR. KINDER: Yes.
MS. FIELDS: Ms. Kindrick?
MS. KINDRICK: Yes.
MS. FIELDS: Ms. Lowry?
MS. LOWRY: Yes.
MS. FIELDS: Mr. Munson?
MR. MUNSON: Yes.
MS. FIELDS: Mr. Peterson?
MR. PETERSON: Yes.
MS. FIELDS: Mr. Tatum?
MR. TATUM: Absolutely.
MS. FIELDS: Dr. Ferrell?
DR. FERRELL: Yes.
MS. FIELDS: Motion passed.
DR. FERRELL: That concludes our formal meeting.
(MEETING ADJOURNED AT 12:26 PM)
DR. FERRELL: Before we move into the public forum, I will recognize Ms. Esteph as the winner of our "I traveled the furthest to get to this meeting". As a result, you will be receiving a year's supply of Rice-A-Roni, The San Francisco

Treat, and a copy of EQB, the home game, for your enjoyment.

So thank you for coming out. My special appreciation to everyone who made the trip, I think it's very worth it. I love this part of the state, I love its beauty, but I'm a Western Oklahoma kid, so here we are.

With that, we will now actually move to the public forum. Welcome to this public forum of the Environmental Quality Board. Public input is valuable to the Board and the Department and we welcome your participation.

Forums allow the public to make suggestions or express concerns about environmental laws, rules, or policy. However, concerns with an action or decision in a specific case or matter, such as a particular permit application or enforcement case, should be communicated directly to the Department. The Board cannot and does not intervene in these case-specific decisions. We also ask that you not use the forum to advertise or publicize commercial products or services.

Because of the nature of the issues that are appropriate for the forum, you may not receive an immediate response to your comments.

Department staff and/or the Board generally will need to take some time to evaluate the comments and respond to them. If you desire to make comments at today's forum but you did not sign the sheet on the information table when you came in, would you please raise your hand?

Do we have any sign-ins? Then we shall declare the public forum closed.

Thank you all so much for your time, for your efforts, for your work on behalf of the State of Oklahoma and for keeping our state a safe and wonderful place to be. Thank you all for coming.

(PROCEEDINGS ADJOURNED AT 12:30 PM)

CERTIFICATE

I, Jenny Longley, Certified Shorthand Reporter within and for the State of Oklahoma, do hereby certify that the above and foregoing meeting was by me taken in shorthand and thereafter transcribed; and that I am not an attorney for nor relative of any of said parties or otherwise interested in the event of said action.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal this 18th day of September, 2026.

Jenny Longley, CSR
CSR # 1903

OKLAHOMA Environmental Quality

ENVIRONMENTAL QUALITY BOARD

Attendance Record

September 9, 2026

Guymon, Oklahoma

Public Record Notice: Information provided on this sign-in sheet is subject to disclosure under the Oklahoma Open Records Act and may be released as a public record. Entries will not be redacted. By signing, you acknowledge and accept this condition.

Name	Affiliation	Address and/or Phone and/or E-Mail
Andrew Skeeth	RTR	2316 Doral Dr. Edmond, OK
Wayne Riley	RTR	P.O Box 1108 Noble, OK 73068
Travis McNiel	DEQ	707 N Robinson
Brandi Lowry	EQB	
Brandon Bowman	OWA	bbowman@okwa.org
Kathlin Estep	EQB	
Alexie Kindrick	EQB	akindrick@wef.org
Josh Mitchell	City of Guymon	josh.mitchell@guymonok.org
Rick Sappington	Seaboard Foods	rick.sappington@seaboardfoods.com
Olivia Field	DEQ	
Rachel Hildebrand	DEQ	
	DEQ	

OKLAHOMA Environmental Quality

ENVIRONMENTAL QUALITY BOARD

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Name	Affiliation	Address and/or Phone and/or E-Mail
Kole Kennedy	DEQ - LPD	kole.kennedy@deq.ok.gov
Sheldon Tatum	DEQ Board	sheldontatum17@gmail.com
Steven Pierce	City of Guymon	steven.pierce@guymonok.org
Kathy Aebischer	DEQ	kathy.aebischer@deq.ok.gov
MARK STASYSZEN	DEQ	mark.stasyszen@deq.ok.gov
TIM MUNSON	"	
Aron Samuel	DEQ	aron.samuel@deq.ok.gov
Chad Bayless	City of Guymon	chad.bayless@guymonok.org
STEVE Christian	City of Guymon	steve.christian@guymonok.org
Mack McKinley	City of Guymon	mack.mckinley@guymonok.org
Steven Thibodeau	DEQ - WQD	Steven.Thibodeau@deq.ok.gov
[illegible]	DEQ	

OKLAHOMA Environmental Quality

ENVIRONMENTAL QUALITY BOARD

Attendance Record

September 9, 2026

Guymon, Oklahoma

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Name	Affiliation	Address and/or Phone and/or E-Mail
Kelly Dixon	DEQ	
Kendal Stegmann	DEQ	
Dustin Davidson	DEQ	
Skylar McElhaney	DEQ	
George Russell	DEQ	
Ryan McIntosh	DEQ	
Jimmy Kirk	DEQ	
Bud Ground	EFO	
Malcolm Zachariah	DEQ	
Michelle Wynn	OSEE	
Mark Hildebrand	DEQ	

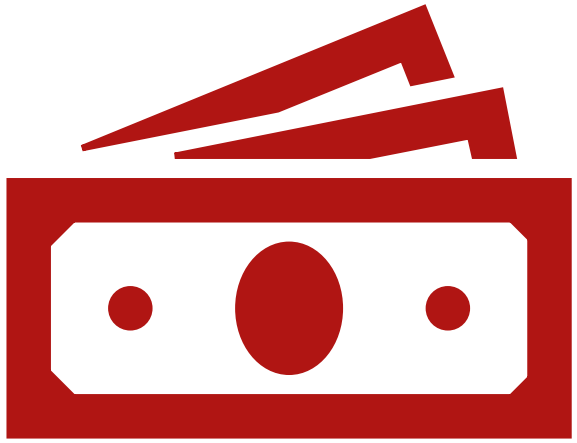
ANNUAL OWNERSHIP DISCLOSURE

As of September 1, 2026

Oklahoma Statutes Title 27A, Section 2-3-101(C) states:

Any employee of the Department in a technical, supervisory or administrative position relating to the review, issuance or enforcement of permits pursuant to this Code who is an owner, stockholder, employee or officer of, or who receives compensation from, any corporation, partnership, or other business or entity which is subject to regulation by the Department of Environmental Quality shall disclose such interest to the Executive Director. Such disclosure shall be submitted for Board review and shall be made a part of the Board minutes available to the public. This subsection shall not apply to financial interests occurring by reason of an employee's participation in the Oklahoma State Employees Deferred Compensation Plan or publicly traded mutual funds.

NO	NAME	POSITION	REGULATED ENTITIES	DESCRIPTION OF OWNERSHIP INTEREST, EMPLOYMENT AND/OR COMPENSATION
1	Hillary Young	Engineering Manager IV, LPD	Continental Resources	Employee and employees spouse acquired mineral interests late last year; Continental Resources is the mineral lessee.
2	TJ Wall	Environmental Program Specialist III, AQD	Troy Energy	Employee inherited mineral interests earlier this year; Troy Energy is the mineral lessee.
3				
4				
5				



DEQ Fiscal Year 2027 Budget

ENVIRONMENTAL QUALITY BOARD MEETING

NOVEMBER 10, 2026

FY27 Revenue Status Report
As of September 30, 2026

	Current Fiscal Year Activity (FY2027)				Comparison to Previous Year (FY2026)			
Division	FY2027 Projections	FY2027 Collections 7/1 to 9/30	% of Total Projections	Projected Revenue Remaining	FY2026 Projections	Collections Same Time Period	% of Total Projections	Variance
SELS	$1,975,000	$713,958	36.1%	($1,261,042)	$2,135,000	$1,032,802	48.4%	($318,844)
ECLS	3,110,215	1,166,610	37.5%	(1,943,605)	3,027,963	1,252,517	41.4%	(85,907)
AQD	12,609,700	10,949,872	86.8%	(1,659,828)	13,993,822	10,211,005	73.0%	738,867
WQD	9,276,000	6,214,785	67.0%	(3,061,215)	8,931,000	7,189,383	80.5%	(974,598)
LPD	13,385,000	3,622,915	27.1%	(9,762,085)	13,185,000	2,496,671	18.9%	1,126,244
	$40,355,915	**$22,668,140**	**56.2%**	**($17,687,775)**	**$41,272,785**	**$22,182,378**	**53.7%**	**$485,762**

FY27 BUDGET STATUS
AS OF SEPTEMBER 30, 2026
(BY ACCOUNT CODE)

Expenditure Category	Budget	Expenses	Encumbered	Remaining
Salaries and other Compensation Expenses	56,926,114	11,901,589	131,709	44,892,816
Professional Services	44,413,391	3,212,064	23,413,574	17,787,753
Travel Expenses	833,780	127,142	5,000	701,638
Administrative Expenses	7,887,596	2,237,121	4,528,008	1,122,467
Lab Equipment, Furniture & Building Construction	2,121,356	1,137,140	3,965,055	(2,980,840)
Local Governments & Non-Profit Projects and Programs	104,696,990	3,486,038	91,305,898	9,905,055
Total Expenses	**$216,879,227**	**$22,101,094**	**$123,349,245**	**$71,428,889**

FY27 BUDGET STATUS
AS OF SEPTEMBER 30, 2026
(BY FUNDING SOURCE)

Funding Sources		Budget	Expenses	Encumbered	Remaining
19312	General Appropriations (Parking Garage)	1,632,017	508,259	1,123,758	-
19701	General Appropriations (FY27 Allocation)	19,671,010	992,195	1,956,290	16,722,524
57601	General Appropriations (FY26 Allocation)	9,792,945	1,417,071	8,365,663	10,211
20000	Revolving Fund	64,171,653	12,399,785	19,143,536	32,628,331
21000	Environmental Education Fund	17,000	-	-	17,000
22000	Hazardous Waste Penalty Fund	-	-	-	-
22500	Certificate Fund (Operator Certification)	572,235	190,622	161,700	219,913
23500	Blue River-Little Blue Creek Stream Health	906,367	12,614	839,412	54,340
38600	PREP Funds (Tulsa Levee/ Guymon Mesa Water)	68,281,521	111,332	68,170,189	-
40000	Federal Funds	38,544,453	5,465,494	19,586,812	13,492,147
40300	Brownfields Revolving Loan Fund	-	-	9,400	(9,400)
40500	Environmental Settlement Fund (Federal)	5,786,736	1,003,721	2,879,524	1,903,491
41000	Water Management Federal Fund (OSEE Funds)	7,503,290	-	1,112,959	6,390,331
	Total Funding Sources	**$216,879,227**	**$22,101,094**	**$123,349,245**	**$71,428,889**



TITLE 252. DEPARTMENT OF ENVIRONMENTAL QUALITY
CHAPTER 606. OKLAHOMA POLLUTANT DISCHARGE ELIMINATION SYSTEM (OPDES) STANDARDS

RULEMAKING ACTION:
PERMANENT final adoption
RULES:
Subchapter 1. Introduction
252:606-1-2. Definitions [AMENDED]
252:606-1-2.1. Technical Definitions [AMENDED]
Subchapter 6. Point Source Discharges
252:606-6-11. Receiving water background characterization requirements [AMENDED]
252:606-6-31. WET test requirements [AMENDED]
252:606-6-53. Q* ratio for the implementation of numerical criteria for toxic substances to protect the Fish and Wildlife Propagation beneficial use [AMENDED]
252:606-6-55. Wasteload allocations for the implementation of numerical criteria for toxic substances to protect the Fish and Wildlife Propagation beneficial use [AMENDED]
252:606-6-86. Implementation of bacterial criteria to protect the Primary Body Contact Recreation (PBCR) and the Secondary Body Contact Recreation (SBCR) beneficial use [AMENDED]
Appendix L. Equations for Implementation of Numerical Criteria for Toxic Substances to Protect the Fish and Wildlife Propagation Beneficial Use [AMENDED]
AUTHORITY:
Environmental Quality Board; 27A O.S. §§ 2-2-101.
Oklahoma Pollutant Discharge Elimination System Standards; 27A O.S. §§ 2-6-203.
Oklahoma Water Quality Standards Implementation Plan; 27A O.S. §§ 1-1-202.
SUBMISSION OF PROPOSED RULES TO GOVERNOR AND CABINET SECRETARY:
August 7, 2026
COMMENT PERIOD:
September 1, 2026 through October 19, 2026
PUBLIC HEARING:
Written comments were taken from September 1, 2026, through October 19, 2026. Oral comments were taken at the Formal Rulemaking Meeting on October 16, 2026, at 1:00 PM at the DEQ Headquarters, First Floor, 707 N. Robinson Avenue, Oklahoma City, OK 73102, and can be made at the Environmental Quality Board Meeting on November 10, 2026, at 9:30 AM at the Robert S. Kerr Environmental Research Center, 919 Kerr Research Dr., Ada, OK. 74820
ADOPTION:
November 10, 2026, (Proposed)
SUBMISSION OF ADOPTED RULES TO GOVERNOR AND LEGISLATURE:
November 20, 2026
EFFECTIVE:
September 15, 2027 (Proposed)
SUPERSEDED EMERGENCY ACTIONS:
n/a
INCORPORATION BY REFERENCE:
Incorporated standards: None
Incorporating rules:
None

Availability:
Copies of the proposed rules may be obtained from the contact person, reviewed at the Department of Environmental Quality, 707 N. Robinson, Oklahoma City, Oklahoma, during normal business hours (8:00 am - 4:30 pm Monday through Friday) or reviewed online at https://oklahoma.gov/deq/rules-and-regulations/proposed-rules-regulations.html.

GIST/ANALYSIS:
The gist of the proposed rules is to add and modify definitions to Subchapter 1. INTRODUCTION, as well as adding language to SUBCHAPTER 6. POINT SOURCE DISCHARGES for determination of reasonable potential for selenium. New equations are proposed to be added to Appendix L consistent with the proposed changes to sections in Subchapters 1 and 6.

CONTACT PERSON:
Nicole Newcomer, Water Quality Division, 707 N. Robinson, P.O. Box 1677, Oklahoma City, OK 73101-1677, email nicole.newcomer@deq.ok.gov, phone (405) 702-8290, or fax (405) 702-8101.

CHAPTER 606. OKLAHOMA POLLUTANT DISCHARGE ELIMINATION SYSTEM (OPDES) STANDARDS

SUBCHAPTER 1. INTRODUCTION

252:606-1-2. Definitions

In addition to terms defined in Title 27A of the Oklahoma Statutes, the following words or terms, when used in this Chapter, have the following meaning unless the context clearly indicates otherwise:

"Accredited laboratory" means a laboratory accredited through DEQ ~~laboratory accreditation program~~ Laboratory Accreditation Program.

"Acute WET testing" means WET testing which measures short-term lethality to a specific aquatic animal test species as specified in OAC 252:606-6-29.

"Arithmetic mean" means the sum of the values of individual data points in a data set divided by the number of data points. This term is synonymous with arithmetic average.

"Background concentration" means the concentration of a substance in receiving water immediately upstream of, but not influenced by, a wastewater discharge.

"Beneficial use" means the use of biosolids or wastewater through land application for the purpose of soil conditioning, or crop or vegetative fertilization, or erosion control, or the use of wastewater for dust suppression where fugitive dust control would otherwise be an air quality problem, in a manner which does not pollute or tend to pollute the waters of the State of Oklahoma, the environment or pose a risk to human health.

"Best professional judgment" or "**BPJ**" means the technical opinion developed by a permit drafter after consideration of all reasonably available and pertinent data or information which forms the basis for the terms and conditions of a discharge permit, and the use of sound engineering analysis of the industry, the nature and quantity of potential pollutants which may be produced and of the proposed treatment plant.

"Biosolids" means primarily organically treated wastewater materials from municipal wastewater treatment plants that are suitable for recycling as amendments. This term is within the meaning of "sludge" referenced in 27A O.S. § 2-6-101(11). Biosolids are divided into the following classes:

(A) Class A Biosolid meets the pathogen reduction requirements of 40 CFR § 503.32 (a);

(B) Class B Biosolid meets the pathogen reduction requirements of 40 CFR § 503.32 (b).

"CAFO" means Concentrated Animal Feeding Operation.

"Chronic WET testing" means WET testing which measures long term lethal and sublethal effects to a specific aquatic animal test species as specified in OAC 252:606-6-29.

"Coefficient of variation" or **"CV"** means, when used in the context of effluent data, the measure of an effluent distribution's variation relative to its mean. When used in the context of WET test acceptability, CV means the % variation among test replicates in either the control or the critical dilution.

"Compliance Testing" means any chemical, physical or bacteriological tests conducted in accordance with permit requirements.

"Control tests" means any chemical, physical or bacteriological tests, including visual observations, performed to aid in operational decisions and to control wastewater treatment system performance.

"CPP" means the Continuing Planning Process document, which describes present and planned water quality management programs and the strategy used by the State in conducting these programs.

"Critical dilution" means an effluent dilution, expressed as a percentage, representative of the dilution afforded a wastewater discharge according to the appropriate Q*-dependent chronic mixing zone equation for chronic WET testing. The critical dilution for acute WET testing is 100%.

"CWA" means the Clean Water Act and amendments thereto.

"Defensible analytical data" means data traceable to a laboratory ~~certified~~ accredited for that pollutant by DEQ under OAC 252:301, 252:302; or 252:307 or data accepted by EPA; data traceable to a municipal laboratory operated by a properly certified laboratory technician by OAC 252:710; data traceable to DEQ State Environmental Laboratory Services Division; or data generated by a state or federal agency laboratory with equivalent certification or recognition. Quality assurance procedures, including chain of custody records, shall be adequate and documentable. Quality control data required in the analytical method shall be available from the laboratory upon request.

"DEQ" means the Oklahoma Department of Environmental Quality.

"Detectable concentration" means a concentration greater than zero (0) using a ninety-nine percent (99%) probability basis.

"Dilution series" means a set of proportional effluent dilutions for acute or chronic WET testing based on a specified critical dilution, which is typically the next-to-highest dilution in the series.

"Discharge point" means the point at which pollutants, wastewater or stormwater enters waters of the state or become waters of the state.

"DMR" means "Discharge Monitoring Report".

"EPA" means the United States Environmental Protection Agency.

"Fish and Wildlife Propagation" means the WQS beneficial use designation for promoting fish and wildlife propagation for the fishery classifications of HLAC, WWAC, CWAC, and Trout Fishery (Put and Take).

"Fish Consumption" means the WQS beneficial use designation for the protection of human health for the consumption of fish flesh.

"Generator" or **"operator"** means authorized person under whose ownership or management authority, biosolids are used or disposed.

"Geometric mean" means the antilog of the arithmetic average of the natural logarithms of the individual points in a data set.

"Impoundment" or **"Surface impoundment"** have the same meaning used in OAC 252:616-1-2.

"Industrial user" means "industrial users subject to categorical pretreatment standards" and "significant industrial users" as those terms are used in 40 CFR, Part 403.

"Intermittent toxicity" means two or more lethal or sublethal effect test failures of a routine acute or chronic WET test within any 18-month period.

"Land application" means the application of biosolids onto a land surface; injection below land surface; or spreading biosolids onto land surface followed by incorporation into the soil. Land application does not include the disposal of biosolids in a municipal solid waste landfill permitted by DEQ, or the use of Class A biosolids whose production is permitted by DEQ.

"LC_{50} (lethal concentration)" means the concentration of a toxicant in an external medium that is lethal to fifty percent of the test animals for a specified period of exposure.

"Life of the permit" means a specific time frame from the date of the issuance of a permit until a new or renewed permit is issued.

"Listed metal" means those metals listed in Tables I, II, and III of 40 CFR, Part 503.13.

"Loading rate" means the amount (concentration or mass) of constituents or parameters applied to a unit area per application.

"Log-normally distributed" means a distribution of effluent data which is positively skewed.

"Log transformation" means the mathematical transformation of an observed data set which results in a data set consisting of the natural logarithms of the individual data points in the observed data set.

"Major discharger" means an industrial facility which has a point rating greater than or equal to 80 according to the NPDES permit rating system for industrial discharges; a POTW with a design flow greater than or equal to 1.0 MGD; or any facility designated as such by EPA in conjunction with the state permitting authority.

"Measurable level" means a detectable concentration for which the analytical signal to noise ratio is significantly high to report a reliable single number. The measurable level corresponds to the lowest point at which the analytical calibration curve is determined based on analyses for the pollutant of concern.

"Mineral constituents" means chlorides, sulfates and total dissolved solids collectively.

"Municipal" means a publicly owned treatment works or facilities which are privately owned that generate only domestic waste including mobile home parks, homeowner's associations, etc.

"Narrative water quality criterion" means a statement or other qualitative expressions of chemical, physical, or biological parameters that is assigned to protect a beneficial use.

"No Observed Effect Concentration-Lethal" or **"NOECL"** means the greatest tested effluent dilution in a WET test at and below which lethality to test organisms does not occur that is statistically different from the control (0% effluent) at the 95% confidence level.

"No Observed Effect Concentration-Sublethal" or **"NOECS"** means the greatest tested effluent dilution in a WET test at and below which a sublethal effect to test organisms does not occur that is statistically different from the control (0% effluent) at the 95% confidence level.

"NRCS" means Natural Resources Conservation Service.

"Numerical water quality criterion" means a concentration or other quantitative measures of a chemical, physical, or biological parameters that is assigned to protect a beneficial use.

"OAC" means Oklahoma Administrative Code.

"Oklahoma Water Quality Standards" or **"WQS"** means DEQ rules (OAC 252:730) which classify waters of the state, designate beneficial uses for which the various waters of the state must be maintained and protected, and prescribe the water quality required to sustain designated uses.

"Once-through cooling water" means cooling water that is not recirculated.

"OPDES" means Oklahoma Pollutant Discharge Elimination System (see also NPDES).

"OPDES Act" means the Oklahoma Pollutant Discharge Elimination System Act.

"OPDES Permit" means a permit issued pursuant to the OPDES Act.

"O.S." means Oklahoma Statutes.

"Operating records and reports" means the daily record of data connected with the operation of the system compiled in a monthly report on forms approved by DEQ.

"Period of Record" means a continuous period for which a facility's effluent data is reviewed for the purposes of characterizing the effluent.

"Permit cycle" means the life of a permit from the date of issuance to the date of expiration as specifically stated on a permit, unless the expiration of the permit is extended by operation of statute, rule or agreement of the permittee and DEQ.

"Persistent toxicity" means the repeated failure of an acute or chronic WET test. If the required WET testing frequency is monthly, repeated failure occurs upon the failure of two of the three consecutive monthly tests for the same test species. If the required WET testing frequency is other than monthly, repeated failure occurs upon the failure of the required test plus one of the two monthly retests for the same test species in the ensuing two-month period.

"Point Source" means any discernible, confined and discrete conveyance or outlet, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, or vessel or other floating craft, from which pollutants are or may be discharged into waters of the state. The term "point source" shall not include agricultural stormwater runoff and return flows from irrigated agriculture.

"Positively skewed" means a data distribution which is asymmetric about its arithmetic mean with a tail in the positive direction.

"POTW" means publicly owned treatment works.

"Reasonable potential" means causes, or has a reasonable potential to cause, or contribute to an exceedance of a water quality criterion.

"Receiving water" means the water of the state to which a wastewater is discharged.

"Regulatory effluent flow" means the effluent flow, which is water quality criterion-dependent, used in determining reasonable potential and wasteload allocations for a substance.

"Regulatory low flow" means a condition where the flow of the water in a stream is significantly reduced, often during prolonged dry weather. This phenomenon is characterized by a decrease in stream flow, which can be defined by specific statistics such as 7Q2 or 30Q2. Regulatory low flow is important for setting permit discharge limits and ensuring ecological protection, as it can lead to water quality issues and affect water resources. 30Q2 shall be used only for setting discharge permit limits for selenium.

"Robust Regression on Order Statistics" or **"Robust ROS"** means a statistical method that computes a regression line to estimate values for non-detect data and combines these estimates with detected observations to compute sample statistics.

"RPF_{95}" means the reasonable potential factor for an effluent distribution, based on a 95% probability basis, for the purpose of determining whether an effluent limitation is required.

"$RPF_{95(M)}$" means the reasonable potential factor for an effluent distribution, based on a 95% confidence interval and 95% probability basis, and accounting for the size of the effluent data set, for the purpose of determining whether further effluent monitoring is required.

"Standard deviation" or **"s_x"** means the standard deviation of an untransformed data set based on a sample of size N.

"Standard deviation of log-transformed x" or **"sln(x)"** means the standard deviation of a log-normally transformed data set based on a sample of size N.

"Sublethal test failure" means the statistically significant difference (at the 95% confidence level) between reproduction or growth of the test organism at or below the chronic critical dilution after completion of an EPA approved chronic test method.

"TDS" means total dissolved solids.

"Trigger Background concentration" means the background concentration necessary to trigger reasonable potential for a substance to exceed an applicable criterion given a specified mean effluent concentration.

"USC" means United States Code.

"Wasteload allocation" or **"WLA"** means the portion of a receiving water's that is allocated to one of its existing or future point sources of pollution.

"WET limit" means a WET testing limitation in the form of a $NOEC_L$, $NOEC_S$, or LC_{50}, the exceedance of which constitutes a permit violation.

"WET testing" means testing for whole effluent toxicity:

(A) using an effluent dilution series based on a critical dilution,

(B) with a specific aquatic animal species, and

(C) utilizing EPA-approved testing methods.

252:606-1-2.1. Technical Definitions

The following technical definitions, when used in this Chapter, shall have the following meaning:

"**ΔT_{max}**" means the maximum temperature increase in ℃ at the edge of the temperature mixing zone.

"**7Q2**" means the 7-day low flow of a stream likely to occur with a 50% probability each year. The procedure for determining a site-specific 7Q2 is described at OAC 252:740-1-6.

"30Q2" means the 30-day low flow of a stream likely to occur with a 50% probability each year. The procedure for determining a site-specific 30Q2 is described at OAC 252:740-1-6.

"**ACD**" means acute critical dilution.

"**BOD_5**" means 5-day biochemical oxygen demand.

"**BT/C ratio**" means the ratio of trigger background concentration to associated water quality criterion.

"**$(BT/C)_{max}$**" means the maximum BT/C ratio for a given criterion for which background monitoring is required as a permit condition.

"**C_{95}**" means the 95th percentile maximum likelihood effluent concentration of a substance. It is the product of $CE_{(mean)}$ and RPF_{95}.

"**$C_{95(M)}$**" means the 95th percentile maximum likelihood effluent concentration of a substance, accounting for the size of the effluent data set. It is the product of $C_{E(max)}$ and $RPF_{95(M)}$.
"**C_A**" means the acute numerical criterion for toxic substances.
"**C_B**" means background concentration.
"**C_C**" means the chronic numerical criterion for toxic substances.
"**C_d**" means the instream concentration of a substance resulting from a wastewater discharge.
"**$C_{d(A)}$**" means the instream concentration of a substance as determined by the acute mixing equation.
"**$C_{d(c)}$**" means the maximum instream concentration of a substance at the edge of the chronic mixing zone.
"**$C_{d(FF)}$**" means the instream concentration of a substance after complete mixing, as applied to determination of reasonable potential to exceed a human health criterion for the consumption of fish flesh.
"**$C_{d(FFW)}$**" means the instream concentration of a substance after complete mixing, as applied to determination of reasonable potential to exceed a human health criterion for the consumption of fish flesh and water.
"**$C_{d(NRWQC)}$**" means the instream concentration of a substance after complete mixing, as applied to determination of reasonable potential to exceed an EPA human health criterion for the consumption of fish flesh.
"**$C_{d(RAW)}$**" means the instream concentration of a substance after complete mixing, as applied to determination of reasonable potential to exceed a raw water column criterion.
"**$C_{d(SS)}$**" means the instream concentration of a substance after complete mixing, as applied to determination of reasonable potential to exceed an agriculture sample standard (SS).
"**$C_{d(YMS)}$**" means the instream concentration of a substance after complete mixing, as applied to determination of reasonable potential to exceed an agriculture yearly mean standard (YMS).
"**$C_{E(max)}$**" means the maximum concentration of a substance in an effluent data set.
"**$C_{E(mean)}$**" means mean effluent concentration.
"**C_{FF}**" means the numerical criterion for the protection of human health for the consumption of fish flesh.
"**C_{FFW}**" means the numerical criterion for the protection of human health for the consumption of fish flesh and water.
"**C_{NRWQC}**" means the EPA recommended national water quality criterion for the protection of human health for the consumption of fish flesh.
"**C_{RAW}**" means the numerical criterion for protection of the raw water column.
"**C_{SS}**" means agriculture sample standard numerical criterion, i.e., the historic segment averaged SS value from Appendix F of OAC 252:730, unless data more representative of the receiving stream are available.
"**C_{YMS}**" means agriculture yearly mean standard numerical criterion, i.e., the historic segment averaged YMS value from Appendix F of OAC 252:730, unless data more representative of the receiving stream are available.
"**$CBOD_5$**" means 5-day carbonaceous biochemical oxygen demand.
"**CCD**" means chronic critical dilution.
"**CWAC**" means cool water aquatic community.
"**D**" means, in the context of a discharge to a lake through a pipe, the pipe diameter in feet.
"**DML**" means daily maximum permit limitation.
"**DML_{CL}**" means agriculture criterion-based DML for chlorides.
"**DML_{FF}**" means the human health/fish flesh DML.
"**DML_{FFW}**" means the human health/fish flesh and water DML.
"**DML_{HH}**" means human health-based DML.
"**DML_{RAW}**" means the raw water column DML.
"**DML_{SO4}**" means agriculture criterion-based DML for sulfates.
"**DML_T**" means the temperature based DML.
"**DML_{TDS}**" means agriculture criterion-based DML for total dissolved solids (dried at 180°C).
"**DML_{TOX}**" means toxic substance-based DML.
"**DO**" means dissolved oxygen.
"**HLAC**" means habitat-limited aquatic community.
"**LTA**" means long-term average.
"**LTA_A**" means the toxic substance acute numerical criterion LTA.
"**LTA_C**" means the toxic substance chronic numerical criterion LTA.
"**LTA_{FF}**" means the fish flesh human health criterion LTA.
"**LTA_{FFW}**" means the fish flesh and water human health criterion LTA.
"**LTA_{RAW}**" means the raw water column criterion LTA.
"**LTA_{SS}**" means the agriculture sample standard LTA.
"**LTA_T**" means the temperature criterion LTA.
"**LTA_{TOX}**" means the limiting toxic substance-based LTA, i.e., the smallest of LTA_A or LTA_C, as applicable.
"**LTA_{YMS}**" means the agriculture yearly mean standard LTA.

"**MAL**" means monthly average permit limitation.
"**MAL_A**" means the toxic substance acute criterion MAL.
"**MAL_C**" means the toxic substance chronic criterion MAL.
"**MAL_{CL}**" means agriculture criterion-based MAL for chlorides.
"**MAL_{FF}**" means the human health/fish flesh MAL.
"**MAL_{FFW}**" means the human health/fish flesh and water MAL.
"**MAL_{RAW}**" means the raw water column MAL.
"**MAL_{HH}**" means human health-based MAL.
"**MAL_{SO4}**" means agriculture criterion-based MAL for sulfates.
"**MAL_T**" means temperature MAL.
"**MAL_{TDS}**" means agriculture criterion-based MAL for total dissolved solids (dried at 180℃).
"**MAL_{TOX}**" means toxic substance-based MAL.
"**MGD**" means million gallons per day.
"**mg/L**" means milligrams per liter.
"**MQL**" means minimum quantifiable level.
"**N**" means the number of individual data points, collected over time, in an effluent or background data set.
"**N_m**" means the per month monitoring frequency where a permit limitation is established. When used in the context of temperature limitations, Nm is equal to four times Nw (i.e., $Nm = 4 \times Nw$).
"**N_w**" means the per week monitoring frequency where a temperature permit limitation is established.
"**NRWQC**" means the National Recommended Water Quality Criteria, publication no. EPA 822-Z-99-001, April 1999.
"**PBCR**" means Primary Body Contact Recreation.
"**Q***" means the ratio of the regulatory effluent flow to the regulatory receiving water flow.
"**Q_e**" means regulatory effluent flow.
"**$Q_{e(30)}$**" means the Q_e that is the highest monthly average flow over the two-year period of record for an industrial facility. For intermittent discharges, $Q_{e(30)}$ is calculated based on days when discharge actually occurs.
"**$Q_{e(D)}$**" means the Qe that is the lesser of the design flow for a municipal POTW or the design flow listed in the Section 208 Areawide Basin Plan.
"**$Q_{e(LTA)}$**" means the Qe that is the arithmetic (long term) average flow over the two year period of record for an industrial facility.
"**Q_u**" means regulatory receiving water flow upstream of a point of wastewater discharge.
"**$Q_{u(7Q2)}$**" means the same as 7Q2.
"**$Q_{u(30Q2)}$**" means the same as 30Q2.
"**$Q_{u(LTA)}$**" means the Q_u that is the mean annual (long term) receiving water flow.
"**$Q_{u(STA)}$**" means the Qu that is the short term average receiving water flow and is equal to $Q_{u(LTA)} \times 0.68$.
"**SBCR**" means Secondary Body Contact Recreation
"**SNC**" means significant noncompliance.
"**SS**" means sample standard.
"**T_a**" means regulatory ambient temperature in ℃.
"**T_{95}**" means the 95th percentile of the effluent temperature distribution (in ℃) of sustained two-hour daily maximum effluent temperatures where effluent temperature is recorded continuously and the distribution of daily maximum effluent temperatures where temperature is recorded at discrete intervals of two hours or longer, provided that recording intervals for temperature do not exceed six hours.
"**TIE**" means toxicity identification evaluation.
"**TRC**" means total residual chlorine.
"**TRO**" means total residual (halogenated) oxidants.
"**µg/L**" means micrograms per liter.
"**W**" means, in the context of a discharge to a lake through an open channel (i.e., canal), the channel width in feet.
"**WAL**" means weekly average permit limitation.
"**WAL_T**" means temperature WAL.
"**WET**" means whole effluent toxicity.
"**WLA_A**" means a toxic substance acute criterion WLA.
"**WLA_C**" means a toxic substance chronic criterion WLA.
"**WLA_{FF}**" means a human health/fish flesh criterion WLA.
"**WLA_{FFW}**" means a human health/fish flesh and water criterion WLA.
"**WLA_{RAW}**" means a raw water column criterion WLA.
"**WLA_{SS}**" means an agriculture sample standard WLA.
"**WLA_T**" means a temperature criterion WLA.
"**WLA_{YMS}**" means an agriculture yearly mean standard WLA.

"**WQMP**" means the statewide Section 208 Water Quality Management Plan.
"**WWAC**" means warm water aquatic community.
"**YMS**" means yearly mean standard.

SUBCHAPTER 6. POINT SOURCE DISCHARGES

252:606-6-11. Receiving water background characterization requirements

(a) **Long-term average**. Where required, DEQ will calculate a LTA background level of a substance as a geometric mean unless otherwise specified.

(b) **Background data sources**. Background data must be defensible analytical data and be representative of the receiving water's current upstream conditions. DEQ will use data collected and reported in accordance with a background monitoring requirement in a previous permit where available.

(c) **Unavailability of background data**. Where no background data is available, the background is assumed to be zero.

(d) **Size of background data set**. At least ten data points are required for a background data set to be considered complete. DEQ may use a partial background data set for reasonable potential purposes if the data is the only defensible analytical data available. Where the use of a partial background data set results in demonstration of reasonable potential, the permit will include effluent limitations based on a zero background level, which may have a delayed effective date of no more than two years. The permit will require the permittee to complete the background monitoring, at which time DEQ will reopen the permit, if necessary, to adjust permit limitations according to the background level determined from a complete background data set.

(e) **Alternative Method for Determination of ~~7Q2.~~ Regulatory Low Flow.**

(1) A permittee may use an alternative method for determining a ~~7Q2~~ regulatory low flow as allowed by OAC 252:740-1-6(c). The ~~7Q2~~ regulatory low flow calculated from the historical record may be modified to incorporate anticipated upstream flow releases provided the source of water is owned or controlled by a federal governmental entity and the following information is submitted to DEQ:

(A) a determination that a reliable source of upstream flow exists;

(B) documentation that the upstream source of water:

(i) includes water quality improvement as an authorized use, or

(ii) includes allocated storage for water quality improvement;

(C) documentation that the upstream source of water is governed by a water control plan developed and implemented pursuant to 33 CFR § 222.5; and

(D) a demonstration that the alternative ~~7Q2~~ regulatory low flow is identified in the most recently published State Water Quality Management Plan.

(2) DEQ will include any approved alternative ~~7Q2~~ regulatory low flow as a permit limit in any discharge permit. Said limit shall be stated as a minimum daily flow measured at the nearest upstream flow gage.

(3) In the event that the alternative ~~7Q2~~ regulatory low flow is not consistently attained, DEQ may re-open the permit and re-calculate the effluent limitations using the actual receiving stream flows.

252:606-6-31. WET test requirements

WET testing is required for all major dischargers and those minor dischargers identified by DEQ as posing a significant unaddressed toxic risk. Q* is calculated as described in Appendix J.

(1) The following requirements apply to all WET testing:

(A) **Acute testing only**. Acute testing only is required for all discharges to lakes and to streams where $Q^* < 0.054$.

(B) **Chronic testing only**. Chronic testing only is required where $Q^* > 0.3333$.

(C) **Acute and chronic testing, except for *Daphnia Magna***. Both acute and chronic testing are required where $0.054 \leq Q^* \leq 0.3333$.

(2) **Acute and/or chronic testing using *Daphnia magna***. Acute and/or chronic testing using ~~Daphnia magna~~ *Daphnia magna* may substitute for acute and/or chronic testing for *Daphnia pulex* or *Ceriodaphnia dubia* in the following circumstances:

(A) acute testing using *Daphnia magna* for streams where the instream concentration of TDS is less than or equal to 1000 mg/L after mixing using the regulatory low flow, may be considered by DEQ on a case-by-case basis where the TDS level in an effluent has been demonstrated to cause WET test failures to *Daphnia pulex*.

(B) acute testing using *Daphnia magna* for streams where the instream concentration of TDS is greater than 1000 mg/L after mixing using the regulatory low flow, may be considered on a case-by-case basis where the TDS level in an effluent has been demonstrated to cause WET test failures to *Daphnia pulex* and the background TDS level of the receiving stream causes toxicity to *Daphnia pulex* in a control dilution (0% effluent).

(C) chronic testing using *Daphnia magna* may be considered by DEQ on a case-by-case basis where the TDS level in the effluent has demonstrated WET test failures to *Ceriodaphnia dubia*, where the background TDS levels of the receiving stream causes toxicity to *Ceriodaphnia dubia*, in a control dilution (0% effluent), and

where the permittee can demonstrate that the ionic ratios in the effluent are similar to the ionic ratios in the receiving stream.

(3) **Mussels**. Acute and/or chronic testing of mussels shall be required if DEQ determines that the discharge may affect an indigenous population(s) of mussels.

252:606-6-53. Q* ratio for the implementation of numerical criteria for toxic substances to protect the Fish and Wildlife Propagation beneficial use

Use the following to determine Q* ratio for all toxic substances unless otherwise specified in this Section:

(1) The following are used to determine Q* ratios in streams:

(A) **Industrial effluent**. Q* is the ratio of $Q_{e(30)}$ to $Q_{u(7Q2)}$.

(B) **Municipal effluent**. Q* is the ratio of $Q_{e(D)}$ to $Q_{u(7Q2)}$.

(2) Q* is not applicable to lakes.

(3) For selenium only, $Q_{u(30Q2)}$ shall be used in place of ~~$Q_{u(7Q2)}$~~.

252:606-6-55. Wasteload allocations for the implementation of numerical criteria for toxic substances to protect the Fish and Wildlife Propagation beneficial use

If a pollutant exhibits reasonable potential to exceed WQS, a water quality-based permit limit is required for that pollutant. Background levels used in calculating WLA_A and WLA_C are described in OAC 252:606-6-11 through 14. If a pollutant's background level alone exceeds a criterion, the WLA is set equal to that criterion. For WLA_C, where fish tissue data is evaluated, a conversion from fish tissue to water column numeric criteria following Equations L-12 and L-13 shall be required.

(1) **Streams**. The following applies to streams:

(A) **WLA_A**. Where Q_e is expressed in cfs, Equation L-1 is used to determine WLA_A. Where Q_e is expressed in MGD, Equation L-2 is used.

(B) **WLA_C**. Depending on the value of Q*, Equation L-3, L-4, or L-5 is used to determine WLA_C.

(2) **Lakes**. Depending on whether the discharge conveyance is a pipe or canal, Equation L-6 or L-7 is used to determine WLA_C, or WLA_A, if an acute criterion applies, in the absence of a chronic criterion.

252:606-6-86. Implementation of bacterial criteria to protect the Primary Body Contact Recreation (PBCR) and the Secondary Body Contact Recreation (SBCR) beneficial use

(a) **PBCR waterbodies - May 1 through September 30**. When the use of a bacterial indicator is determined to be necessary, the following bacterial limitations shall apply from May 1 through September 30 to protect the PBCR beneficial use:

(1) ***Escherichia coli*** ~~**(E. coli)**~~ **(*E. coli*)**. When ~~E. coli~~ *E. coli* is the bacterial indicator:

(A) The monthly geometric mean shall not exceed 126/100 mL.

(B) The daily maximum for lakes shall not exceed 235/100 mL.

(C) The daily maximum for all waterbodies other than lakes shall not exceed 406/100 mL.

(2) ~~***Enterococci***~~ **Enterococci**.When enterococci are the bacterial indicator:

(A) The monthly geometric mean shall not exceed 33/100 mL.

(B) The daily maximum for lakes shall not exceed 61/100 mL.

(C) The daily maximum for all waterbodies other than lakes shall not exceed 108/100 mL.

(b) **PBCR waterbodies - October 1 through April 30**. When the use of a bacterial indicator is determined to be necessary, the SBCR bacterial limitations listed in (c) of this Section, shall apply from October 1 through April 30 to protect the PBCR beneficial use when the receiving stream is on the 303(d) List for bacteria.

(c) **SBCR waterbodies**. One of the following bacterial limitations and monitoring requirements shall be used year-round for permittees that discharge fecal coliform to waterbodies on the 303(d) list for bacteria:

(1) ***Escherichia coli*** ~~**(E. coli)**~~ **(*E. coli*)**. When ~~E. coli~~ *E. Coli* is the bacterial indicator:

(A) The monthly geometric mean shall not exceed ~~630~~242/100 mL.

(B) The daily maximum ~~for lakes~~ shall not exceed ~~1175~~781/100 mL.

~~(C) The daily maximum for all waterbodies other than lakes shall not exceed 2030/100 mL.~~

(2) ~~***Enterococci***~~ **Enterococci**.When enterococci are the bacterial indicator:

(A) The monthly geometric mean shall not exceed ~~165~~63/100 mL.

(B) The daily maximum ~~for lakes~~ shall not exceed ~~305~~208/100 mL.

~~(C) The daily maximum for all waterbodies other than lakes shall not exceed 540/100 mL.~~

(d) **Indicators used in WLA**. Regardless of which bacterial indicator was used in a permittee's WLA, the permit may contain either of the bacterial indicators listed in (c) of this Section.

(e) **Exception**. This Section does not apply to discharging lagoons that were permitted and are being operated in compliance with OAC 252:656-11-2(b), unless Water Quality Standards are violated.

APPENDIX L. EQUATIONS FOR IMPLEMENTATION OF NUMERICAL CRITERIA FOR TOXIC SUBSTANCES TO PROTECT THE FISH AND WILDLIFE PROPAGATION BENEFICIAL USE

(1) **General.** Acute and chronic toxicity numerical criteria are implemented according to OAC 252:740 and OAC 252:606-6-51 through 6-57. WLA, criterion LTA and permit limit development equations are described in this appendix.

(2) **Reasonable potential for discharges to streams.**

See OAC 252:740.

(3) **Reasonable potential for discharge to lakes**

See OAC 252:740

(4) **WLA_A and WLA_C for dischargers to streams.**

(A) **Acute criteria WLA.**

$$WLA_A = C_B + \frac{100(C_A - C_B)}{Q_C}, \text{ where } Q_C \text{ is expressed in cfs.} \quad [L\text{-}1]$$

$$WLA_A = C_B + \frac{64.63(C_A - C_B)}{Q_C}, \text{ where } Q_C \text{ is expressed in MGD.} \quad [L\text{-}2]$$

(B) **Chronic criteria WLA.**

$$WLA_C = C_B + \frac{(1+Q*)(C_C - C_B)}{(1.94Q*)}, \text{ Where } Q*\leq 0.1823. \quad [L\text{-}3]$$

$$WLA_C = C_B(6.17 - 15.51Q*)(C_C - C_B), \text{ where } 0.1823 < Q* < 0.3333. \quad [L\text{-}4]$$

$$WLA_C = C_C, \text{ where } Q* \geq 0.3333. \quad [L\text{-}5]$$

(5) WLA_A and WLA_C for dischargers to lakes. The chronic WLA is calculated if a chronic criterion applies. An acute WLA is used only in the absence of a chronic criterion.

$$WLA_{C,A} = C_B + \frac{20.15(C_{C,A} - C_B)}{D}, \text{ where the discharge is by pipe.} \quad [L\text{-}6]$$

$$WLA_{C,A} = C_B + \frac{4.2(C_{C,A} - C_B)}{\sqrt{W}}, \text{ where the discharge is by canal.} \quad [L\text{-}7]$$

(6) **LTA_A and LTA_C (99% probability basis).** Whether the receiving water is a stream of lake, criterion LTAs are calculated in the same fashion. LTA_{TOX} is the more stringent of the two toxicity LTAs.

$$LTA_A = WLA_A \times \text{EXP}\left(0.5\ln(1 + CV^2) - 2.326\sqrt{\ln(1 + CV^2)}\right) \quad [L\text{-}8]$$

$$LTA_C = WLA_C \times EXP\left(0.5 \ln\left(1 + \frac{CV^2}{4}\right) - 2.326\sqrt{\ln\left(1 + \frac{CV^2}{4}\right)}\right) \quad [L\text{-}9]$$

$$LTA_C = WLA_C \times EXP\left(0.5 \ln\left(1 + \frac{CV^2}{30}\right) - 2.326\sqrt{\ln\left(\frac{CV^2}{30}\right)}\right) \quad [L\text{-}9a]$$

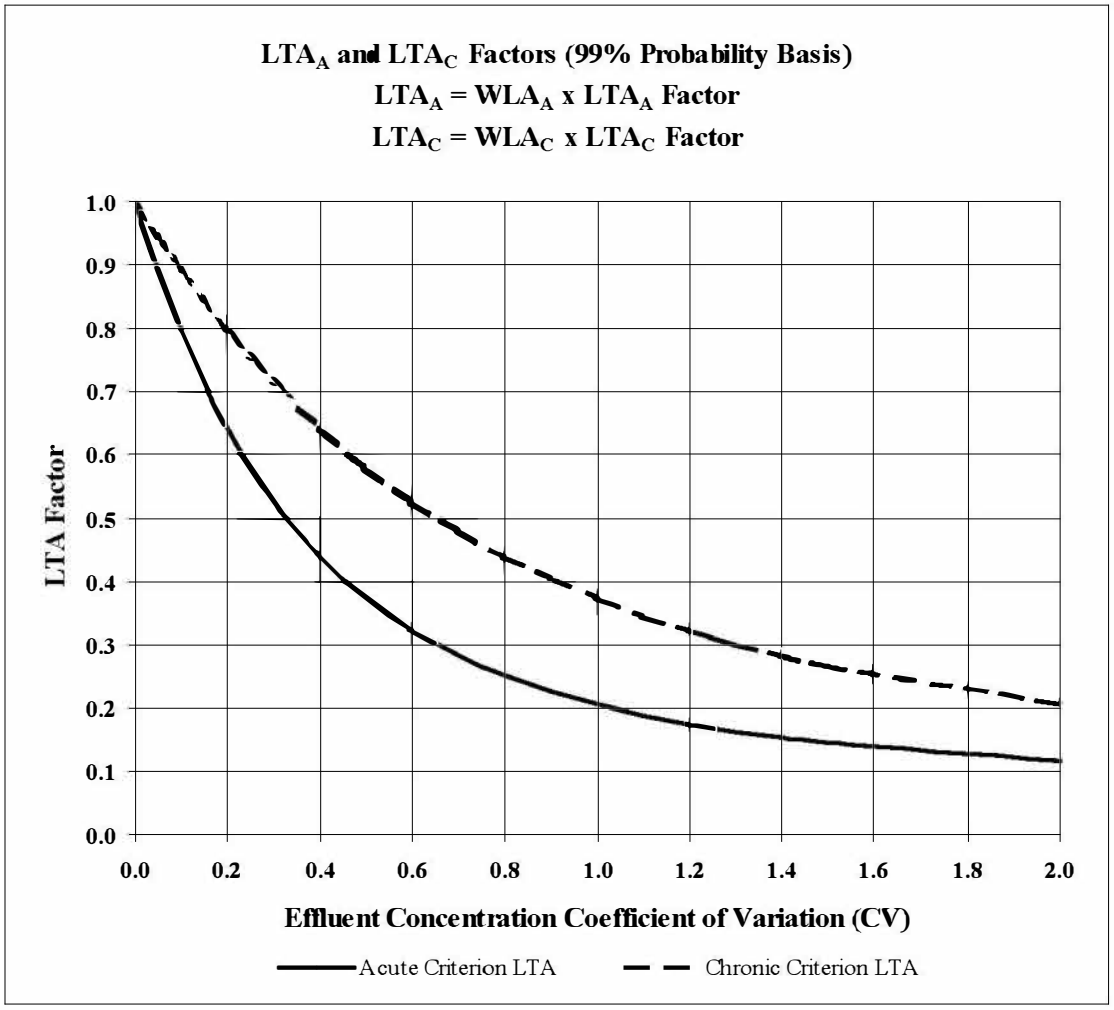


Figure L-1. Aquatic Toxicity LTA Factors vs. Effluent Coefficient of Variation

(7) Permit limitations

(A)MAL_{TOX} (95% probability basis).

$$MAL_{TOX} = LTA_{TOX} \times EXP\left(1.645\sqrt{\ln\left(1+\frac{CV^2}{N_m}\right)} - 0.5\ln\left(1+\frac{CV^2}{N_m}\right)\right) \quad [L\text{-}10]$$

(B) DML_{TOX} (99% probability basis).

$$DML_{TOX} = LTA_{TOX} \times EXP\left(2.326\sqrt{\ln(1+CV^2)} - 0.5\ln(1+CV^2)\right) \quad [L\text{-}11]$$

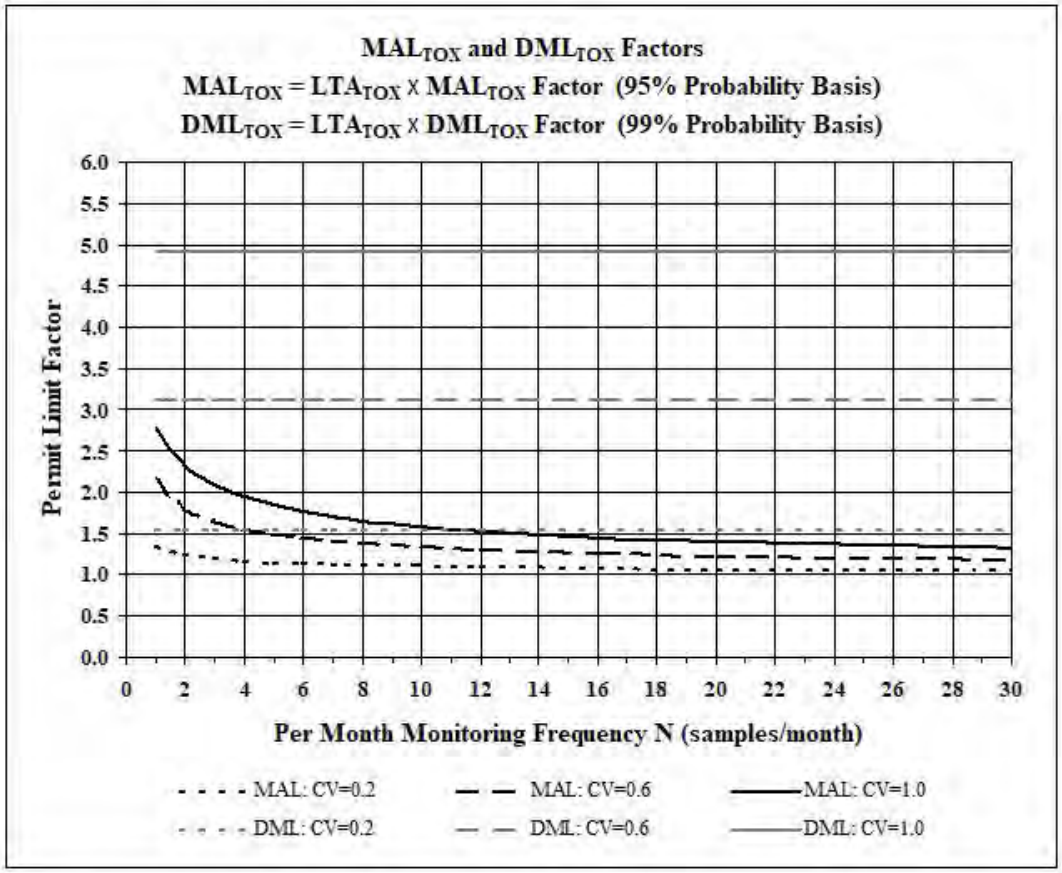


Figure L-2 Toxicity-Based MAL and DML Permit Limit Factors vs. Per Month Monitoring Frequency N_m.

(8) Fish tissue to water column conversion for WLAc.

$BAF = \frac{C_{tissue}}{C_{water}}$, where: [L-12]

BAF = bioaccumulation factor derived from site-specific field-collected samples of tissue and water (L/kg).
C_{tissue} = concentration of selenium in field-collected fish tissue (mg/kg dw).
C_{water} = ambient concentration of selenium in water (mg/L).

$C_{target} = \frac{C_{tissue\ criterion\ element}}{BAF}$, where: [L-13]

C_{target} = translated site-specific water column criterion element (mg/L).
$C_{tissue\ criterion\ element}$ = tissue criterion element (mg Se/kg dw).
BAF = bioaccumulation factor derived from site-specific field-collected samples of tissue and water (L/kg).

APPENDIX L. EQUATIONS FOR IMPLEMENTATION OF NUMERICAL CRITERIA FOR TOXIC SUBSTANCES TO PROTECT THE FISH AND WILDLIFE PROPAGATION BENEFICIAL USE

(1) **General.** Acute and chronic toxicity numerical criteria are implemented according to OAC 252:740 and OAC 252:606-6-51 through 6-57. WLA, criterion LTA and permit limit development equations are described in this appendix.

(2) **Reasonable potential for discharges to streams.**

See OAC 252:740.

(3) **Reasonable potential for discharge to lakes**

See OAC 252:740.

(4) **WLA_A and WLA_C for discharges to streams.**

(A) **Acute criteria WLA.**

$$WLA_A = C_B + \frac{100(C_A - C_B)}{Q_e}$$, where Q_e is expressed in cfs. [L-1]

$$WLA_A = C_B + \frac{64.63(C_A - C_B)}{Q_e}$$, where Q_e is expressed in MGD. [L-2]

(B) **Chronic criteria WLA.**

$$WLA_C = C_B + \frac{(1+Q^*)(C_C - C_B)}{(1.94Q^*)}$$, where $Q^* \leq 0.1823$. [L-3]

$$WLA_C = C_B + (6.17 - 15.51Q^*)(C_C - C_B)$$, where $0.1823 < Q^* < 0.3333$. [L-4]

$$WLA_C = C_C$$, where $Q^* \geq 0.3333$. [L-5]

(5) WLA_A and WLA_C for discharges to lakes. The chronic WLA is calculated if a chronic criterion applies. An acute WLA is used only in the absence of a chronic criterion.

$$WLA_{C,A} = C_B + \frac{20.15(C_{C,A} - C_B)}{D}$$, where the discharge is by pipe. [L-6]

$$WLA_{C,A} = C_B + \frac{4.2(C_{C,A} - C_B)}{\sqrt{W}}$$, where the discharge is by canal. [L-7]

(6) **LTA_A and LTA_C (99% probability basis).** Whether the receiving water is a stream or lake, criterion LTAs are calculated in the same fashion. LTA_{TOX} is the more stringent of the two toxicity LTAs.

$$LTA_A = WLA_A \times \text{EXP}\left(0.5\ln(1 + CV^2) - 2.326\sqrt{\ln(1 + CV^2)}\right)$$ [L-8]

$$LTA_C = WLA_C \times EXP\left(0.5\ln\left(1+\frac{CV^2}{4}\right) - 2.326\sqrt{\ln\left(1+\frac{CV^2}{4}\right)}\right) \quad [L\text{-}9]$$

$$LTA_C = WLA_C \times EXP\left(0.5\ln\left(1+\frac{CV^2}{30}\right) - 2.326\sqrt{\ln\left(\frac{CV^2}{30}\right)}\right) \quad [L\text{-}9a]$$

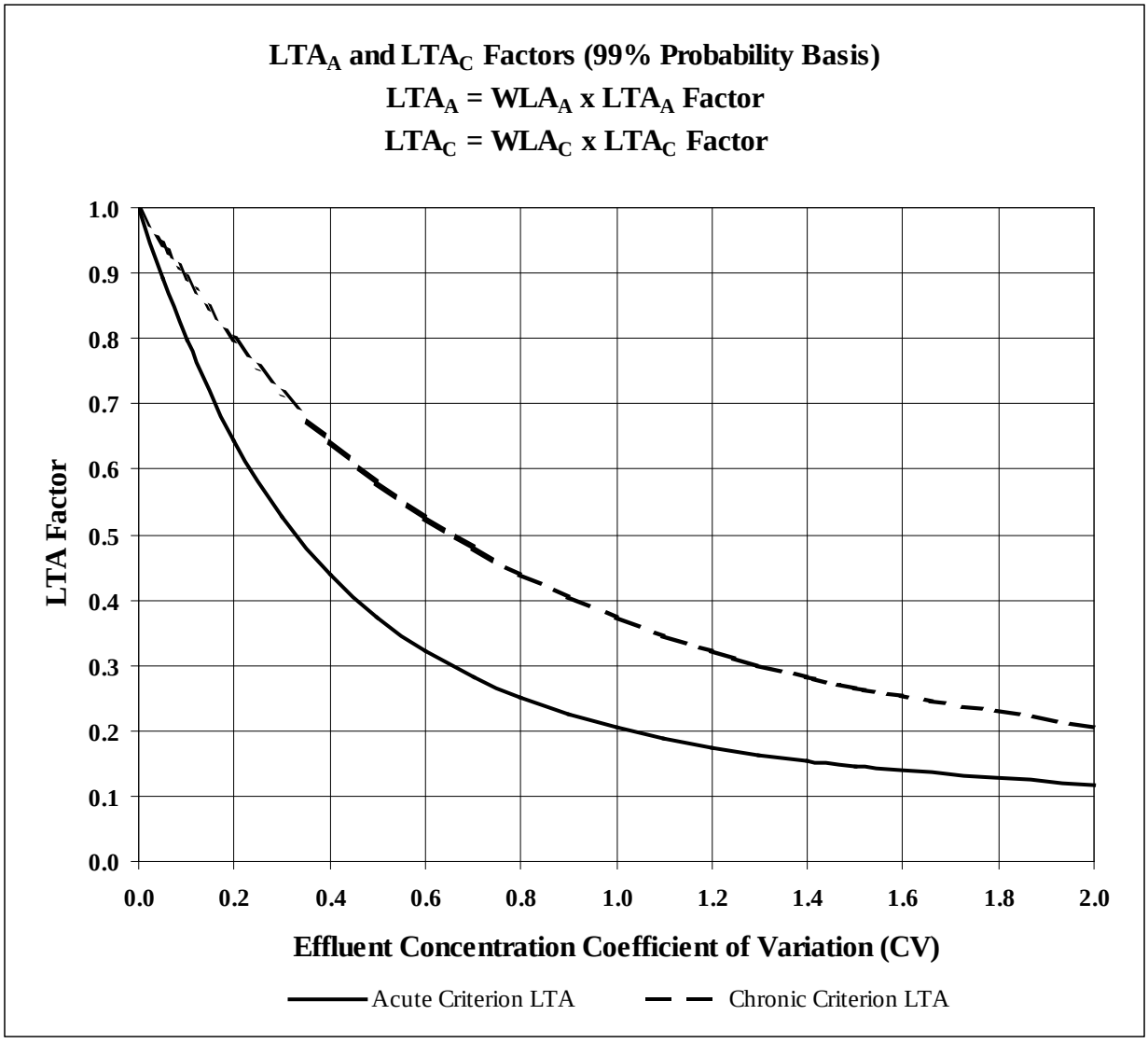


Figure L-1. Aquatic Toxicity LTA Factors vs. Effluent Coefficient of Variation

(7) **Permit limitations.**

(A) **MAL$_{TOX}$ (95% probability basis).**

$$MAL_{TOX} = LTA_{TOX} \times EXP\left(1.645\sqrt{\ln\left(1+\frac{CV^2}{N_m}\right)} - 0.5\ln\left(1+\frac{CV^2}{N_m}\right)\right) \quad [L\text{-}10]$$

(B) **DML_{TOX} (99% probability basis).**

$$DML_{TOX} = LTA_{TOX} \times EXP\left(2.326\sqrt{\ln(1 + CV^2)} - 0.5\ln(1 + CV^2)\right) \qquad [L\text{-}11]$$

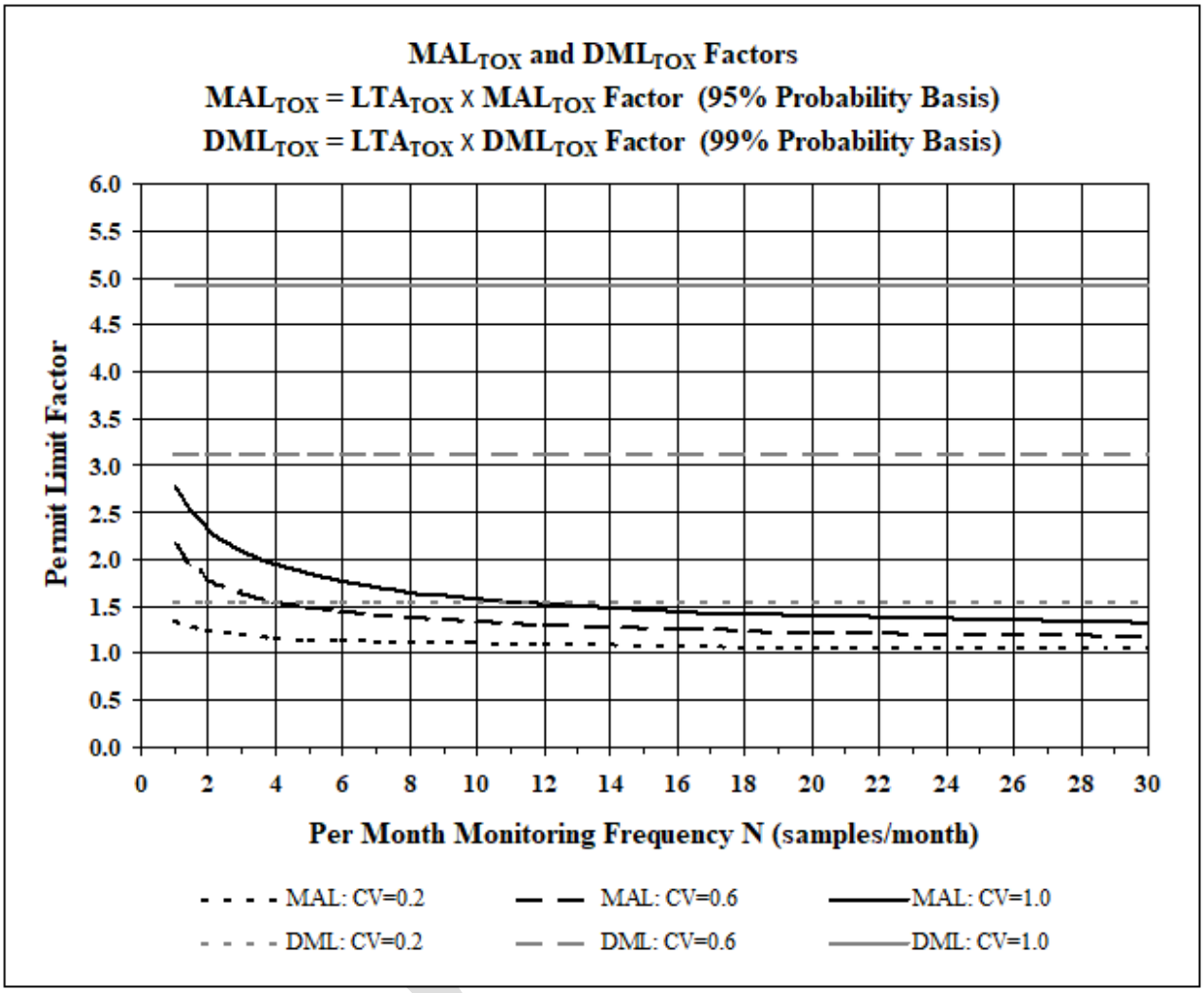


Figure L-2. Toxicity-Based MAL and DML Permit Limit Factors vs. Per Month Monitoring Frequency N_m

(8) Fish tissue to water column conversion for WLA_C.

$BAF = \frac{C_{tissue}}{C_{water}}$, where: [L-12]

BAF = bioaccumulation factor derived from site-specific field-collected samples of tissue and water (L/kg).
C_{tissue} = concentration of selenium in field-collected fish tissue (mg/kg dw).
C_{water} = ambient concentration of selenium in water (mg/L).

$C_{target} = \frac{C_{tissue\ criterion\ element}}{BAF}$, where: [L-13]

C_{target} = translated site-specific water column criterion element (mg/L).
$C_{tissue\ criterion\ element}$ = tissue criterion element (mg Se/kg dw).
BAF = bioaccumulation factor derived from site-specific field-collected samples of tissue and water (L/kg).

SUPP

TITLE 252. DEPARTMENT OF ENVIRONMENTAL QUALITY
CHAPTER 606. OKLAHOMA POLLUTANT DISCHARGE ELIMINATION SYSTEM (OPDES) STANDARDS

EXECUTIVE SUMMARY:

The gist of the proposed rules is to add and modify definitions to Subchapter 1. INTRODUCTION, as well as adding language to SUBCHAPTER 6. POINT SOURCE DISCHARGES for determination of reasonable potential for selenium. New equations are proposed to be added to Appendix L consistent with the proposed changes to sections in Subchapters 1 and 6.

DIFFERENCE FROM ANALOGOUS FEDERAL RULES:

There are no differences from analogous federal rules.

ENVIRONMENTAL BENEFIT STATEMENT:

This rulemaking maintains the current environmental benefits as provided by law. These rules are not more stringent than corresponding federal rules.

SUMMARY OF COMMENTS AND RESPONSES:

None

TITLE 252. DEPARTMENT OF ENVIRONMENTAL QUALITY
CHAPTER 730. OKLAHOMA'S WATER QUALITY STANDARDS

RULEMAKING ACTION:

PERMANENT final adoption

RULES:

Subchapter 1. General Provisions
252:730-1-2. Definitions [AMENDED]
Subchapter 3. Antidegradation Requirements
252:730-3-2. Applications of antidegradation policy [AMENDED]
Subchapter 5. Surface Water Quality Standards
Part 1. GENERAL PROVISIONS
252:730-5-2. Beneficial uses: existing and designated [AMENDED]
252:730-5-4. Applicability of narrative and numerical criteria [AMENDED]
Part 3. BENEFICIAL USES AND CRITERIA TO PROTECT USES
252:730-5-9. General narrative criteria [AMENDED]
252:730-5-10. Public and private water supplies [AMENDED]
252:730-5-12. Fish and wildlife propagation [AMENDED]
252:730-5-13. Agriculture [AMENDED]
252:730-5-16. Primary Body Contact Recreation [AMENDED]
252:730-5-17. Secondary Body Contact Recreation [AMENDED]
Part 5. SPECIAL PROVISIONS
252:730-5-25. Implementation policies for the antidegradation policy statement [AMENDED]
252:730-5-26. Mixing zones and zones of passage [AMENDED]
Subchapter 7. Groundwater Quality Standards
252:730-7-3. Groundwater classifications, beneficial uses and vulnerability levels [AMENDED]
252:730-7-4. Criteria for groundwater quality protection [AMENDED]
Appendix A. Designated Beneficial Uses of Surface Waters [AMENDED]
Appendix E. Requirements for Development of Site-Specific Criteria for Certain Parameters [AMENDED]
Appendix F. Statistical Values of the Historical Data for Mineral Constituents of Water Quality (Beginning October 1976 Ending September 1983, Except as Indicated) [AMENDED]
Appendix G. Numerical Criteria to Protect Beneficial Uses [AMENDED]
Appendix H. Beneficial Use Designations for Certain Limited Areas of Groundwater [AMENDED]

AUTHORITY:

Environmental Quality Board; 27A O.S. § 2-2-101.
Oklahoma Water Quality Standards; 27A O.S. §§ 2-6-103.2 and 2-6-103.3

SUBMISSION OF PROPOSED RULES TO GOVERNOR AND CABINET SECRETARY:

August 7, 2026

COMMENT PERIOD:

September 1, 2026 through October 19, 2026

PUBLIC HEARING:

Written comments were taken from September 1, 2026, through October 19, 2026. Oral comments were taken at the Formal Rulemaking Meeting on October 16, 2026, at 1:00 PM at the DEQ

Headquarters, First Floor, 707 N. Robinson Avenue, Oklahoma City, OK 73102, and can be made at the Environmental Quality Board Meeting on November 10, 2026, at 9:30 AM at the Robert S. Kerr Environmental Research Center, 919 Kerr Research Dr, Ada, OK. 74820

ADOPTION:

November 10, 2026 (Proposed)

SUBMISSION OF ADOPTED RULES TO GOVERNOR AND LEGISLATURE:

November 20, 2026

EFFECTIVE:

September 15, 2027 (Proposed)

SUPERSEDED EMERGENCY ACTIONS:

n/a

INCORPORATION BY REFERENCE:

Incorporated standards: None

Incorporating rules:

None

Availability:

Copies of the proposed rules may be obtained from the contact person, reviewed at the Department of Environmental Quality, 707 N. Robinson, Oklahoma City, Oklahoma, during normal business hours (8:00 am - 4:30 pm Monday through Friday) or reviewed online at https://oklahoma.gov/deq/rules-and-regulations/proposed-rules-regulations.html.

GIST/ANALYSIS:

The gist of this rule and the underlying reason for the rulemaking is to comply with the Water Quality Standards Triennial Review and includes the following updates: add, remove and/or modify certain definitions; update Primary Body Contact Recreation by replacing confidence intervals with geometric mean and statistical threshold values, applicable to both E. coli and Enterococci; updating Secondary Body Contact Recreation to add numeric criteria for E. coli and enterococci based on EPA's water ingestion formula; adding language allowing the use of the copper biotic ligand model for development of copper site-specific criteria; adding language allowing for the potential use of multiple regression model for the creation of copper site-specific criteria; requiring the use of a fish tissue study for selenium site-specific criteria; removal of site-specific metals criteria that were not approved by EPA; removal of segment averages that were not approved by EPA; recalculation of certain criteria and the addition of Aquatic Life and Human Health criteria values based on EPA's recommended values; and, including an updated version of Appendix H that was missing in the most recent version of Chapter 730.

CONTACT PERSON:

Nicole Newcomer, Water Quality Division, 707 N. Robinson, P.O. Box 1677, Oklahoma City, OK 73101-1677, email nicole.newcomer@deq.ok.gov, phone (405) 702-8290, or fax (405) 702-8101.

CHAPTER 730. OKLAHOMA'S WATER QUALITY STANDARDS

SUBCHAPTER 1. GENERAL PROVISIONS

252:730-1-2. Definitions

The following words and terms, when used in this Chapter, shall have the following meaning unless the context clearly indicates otherwise:

"7Q2" ~~means the seven-day, two-year low flow.~~ means the 7-day low flow of a stream likely to occur with a 50% probability each year. The procedure for determining a site-specific 7Q2 is described at OAC 252:740-1-6.

"30Q2" means the 30-day low flow of a stream likely to occur with a 50% probability each year. The procedure for determining a site-specific 30Q2 is described at OAC 252:740-1-6.

"Acute test failure" means greater than or equal to 50% mortality to appropriate test species at or below the critical effluent dilution after a ~~48 hour~~ 48-hour test as provided in OAC 252:606-6-29.

"Acute toxicity" means greater than or equal to 50% lethality to appropriate test organisms in a test sample.

"Alpha particle" means a positively charged particle emitted by certain radioactive materials. It is the least penetrating of the three common types of radiation (alpha, beta, and gamma) and usually is not dangerous to plants, animals or humans.

"Ambient" means surrounding, especially of or pertaining to the environment about an entity, but undisturbed and unaffected by it.

"Aquifer" means a formation that contains sufficient saturated, permeable material to yield significant quantities of water to wells and springs. This implies an ability to store and transmit water; unconsolidated sands and gravels are typical examples.

"Aquifer Storage and Recovery Activities" or ~~**("ASR")**~~ **"ASR"** means activities that exclusively include activities for the storage of water in and recovery of water from an aquifer pursuant to a site-specific aquifer storage and recovery plan authorized by 82 O.S. § 1020.2A. Activities not conducted pursuant to a site-specific aquifer storage and recovery plan shall not be considered ASR activities. For purposes of this chapter, ASR activities also shall not include groundwater recharge or augmentation through a natural connection with a farm pond or other impoundment otherwise authorized by law.

"Artificial Aquifer Recharge" means activities with the primary purpose of recharging or augmenting an aquifer with no intention of recovering such water for future use. For purposes of this chapter, Artificial Aquifer Recharge activities shall not include activities specifically authorized pursuant to 82 O.S. § 1020.2(G) or stormwater runoff management practices otherwise authorized by law.

"Assimilative capacity" means the amount of pollution a waterbody can receive and still maintain the water quality standards designated for that waterbody.

"Attainable uses" means the best uses achievable for a particular waterbody given water of adequate quality. The process of use attainability analysis can, and in certain cases must, be used to determine attainable uses for a waterbody.

"Background" means the ambient condition upstream or upgradient from a facility, practice, or activity which has not been affected by that facility, practice, or activity.

"Beneficial uses" means a classification of the waters of the State, according to their best uses in the interest of the public.

"Benthic macroinvertebrates" means invertebrate animals that are large enough to be seen by the unaided eye, can be retained by a U. S. Standard No. 30 sieve, and live at least part of their life cycles within or upon available substrate in a body of water or water transport system.

"Best available technology" means the best proven technology, treatment techniques, or other economically viable means which are commercially available.

"Best management practices" or **"BMPs"** means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state or United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

"Beta particle" means a negatively charged elementary particle emitted by radioactive decay that may cause skin burns. It is easily stopped by a thin sheet of metal.

"Bioaccumulation Factor" or **"BAF"** is the ratio (in liters per kilogram of tissue) of the concentration of a chemical in the tissue of an aquatic organism to its concentration in water in situations where both the organism and its food are exposed, and the ratio does not change substantially over time.

~~**"Bioconcentration factor"** or **"BCF"** means the relative measure of the ability of a contaminant to be stored in tissues and thus to accumulate through the food chain and is shown as the following formula: BCF = Tissue Concentration divided by Water Concentration.~~

"Biotic Ligand Model" or **"BLM"** means a metal bioavailability model that uses receiving water body characteristics and monitoring data to develop site-specific water quality criteria.

"Board" means the Environmental Quality Board

"BOD" means biochemical oxygen demand.

"Carcinogenic" means cancer producing.

"cfs" means cubic feet per second.

"cfu" means colony-forming units or the equivalent unit of MPN (most probable number). 1 cfu = 1 MPN.

"Chronic test failure" means the statistically significant difference (at the 95% confidence level) between survival, reproduction, or growth of the test organism at or below the chronic critical dilution after completion of a 7-day test as provided in OAC 252:606-6-29, or other test as approved by the permitting authority and the EPA Regional Administrator, and a control.
"Chronic toxicity" means a statistically significant difference (at the 95% confidence level) between longer-term survival and/or reproduction or growth of the appropriate test organisms in a test sample and a control. Teratogenicity and mutagenicity are considered to be effects of chronic toxicity.
"Coliform group organisms" means all of the aerobic and facultative anaerobic, gram-negative, non-spore-forming, ~~rod shaped~~ rod-shaped bacteria that either ferment lactose broth with gas formation within 48 hours at 35°C or possess the beta-galactosidase enzyme to produce a positive chromogenic or fluorogenic reaction. Measurements of bacteria can be expressed as either colony-forming units (cfu) or most probable number (MPN).
"Color" means true color as well as apparent color. True color is the color of the water from which turbidity has been removed. Apparent color includes not only the color due to substances in solution (true color), but also that color due to suspended matter.
"Conservation plan" means, but is not limited to, a written plan which lists activities, management practices, and maintenance or operating procedures designed to promote natural resource conservation and is intended for the prevention and reduction of pollution of waters of the state.
"Cool Water Aquatic Community" or **"CWAC"** means a subcategory of the beneficial use category "Fish and Wildlife Propagation" where the water quality, water temperature, and habitat are adequate to support cool water climax fish communities and includes an environment suitable for the full range of cool water benthos. Typical species may include smallmouth bass, certain darters, and stoneflies.
"Criterion" means a number or narrative statement assigned to protect a designated beneficial use.
"Critical dilution" means, for chronic whole effluent toxicity testing, an effluent dilution expressed as a ~~perc entage~~ percentage representative of the dilution afforded a wastewater discharge according to the appropriate Q*-dependent chronic mixing zone equation.
"Critical temperature" means the higher of the seven-day maximum temperature likely to occur with a 50% probability each year, or 29.4°C (85°F).
~~**"Criterion"** means a number or narrative statement assigned to protect a designated beneficial use.~~
"Degradation" means any condition caused by the activities of humans which result in the prolonged impairment of any constituent of the aquatic environment.
"DEQ" means the Oklahoma Department of Environmental Quality.
"Designated beneficial uses" means those uses specified for each waterbody or segment whether or not they are being attained.
"Dissolved oxygen" or **"DO"** means the amount of oxygen dissolved in water at any given time, depending upon the water temperature, the partial pressure of oxygen in the atmosphere in contact with the water, the concentration of dissolved organic substances in the water, and the physical aeration of the water.
"DRASTIC" means that standardized system developed by the United States Environmental Protection Agency for evaluating groundwater vulnerability to pollution, based upon consideration of depth to water (D), net recharge (R), aquifer media (A), soil media (S), topography (T), impact of the vadose zone media (I), and hydraulic conductivity (C) of the aquifer.
"EPA" means the United States Environmental Protection Agency.
"Ephemeral stream" means an entire stream which flows only during or immediately after a rainfall event and contains no refuge pools capable of sustaining a viable community of aquatic organisms.
"Epilimnion" means the uppermost homothermal region of a stratified lake.
"Eutrophication" means the process whereby the condition of a waterbody changes from one of low biologic productivity and clear water to one of high productivity and water made turbid by the accelerated growth of algae.
"Existing beneficial uses" means those uses listed in Title 40 ~~C.F.R.~~ CFR §131.3 actually attained by a waterbody on or after November 28, 1975. These uses may include public water supplies, fish and wildlife propagation, recreational uses, agriculture, industrial water supplies, navigation, and aesthetics.
"Existing point source discharge(s)" means, for purposes of OAC 252:730-5-25, point source discharges other than stormwater which were/are in existence when the ORW, HQW, or SWS, or SWS-R designation was/is assigned to the water(s) which receive(s) the discharge. The load from a point source discharge which is subject to the no increase limitation shall be based on the permitted mass loadings and concentrations, as appropriate, in the discharge permit effective when the limitation was assigned. Publicly owned treatment works may use design flow, mass loadings, or concentration as appropriate if those flows, loadings, or concentrations were approved as a portion of Oklahoma's Water Quality Management Plan prior to the application of the ORW, HQW, SWS or SWS-R limitation.
"Fresh groundwater" means groundwater with ~~naturally-occurring~~ naturally occurring concentrations of total dissolved solids less than 10,000 mg/L, or with levels of total dissolved solids of 10,000 or more mg/L caused by human activities.
"Geometric mean" means the nth root of the product of the samples.
"Groundwater" means "*waters of the state under the surface of the earth regardless of the geologic structure in which it is standing or moving outside the cut bank of any definite stream.*" [82 O.S. § 1020.1(1)].
"Groundwater basin" means a distinct underground body of water overlain by contiguous land and having substantially the same geological and hydrological characteristics and yield capabilities.
"**Habitat Limited Aquatic Community"** or **"HLAC"** means a subcategory of the beneficial use "Fish and Wildlife Propagation" meeting the conditions specified in OAC 252:730-5-12(b).

"High Quality Water" or **"HQW"** means those waters of the state whose historic water quality and physical habitat provide conditions suitable for the support of sensitive and intolerant climax communities of aquatic organisms, whether or not that waterbody currently contains such a community, and support high levels of recreational opportunity.
"HUC" means hydrologic unit code utilized by the United States Geologic Survey and other federal and state agencies as a way of identifying all drainage basins in the United States in a nested arrangement from largest to smallest, consisting of a multi-digit code which identifies each of the levels of classification within two-digit fields.
"Intolerant climax fish community" means habitat and water quality adequate to support game fishes or other sensitive species introduced or native to the biotic province or ecological region, which require specific or narrow ranges of high quality environmental conditions.
"Lake" means:

(A) An impoundment of waters of the state over 50 acre-feet in volume which is either:
(i) owned or operated by federal, state, county, or local government or
(ii) appears in Oklahoma's Clean Lakes Inventory.
(B) Surface impoundments which are used as a treatment works for the purpose of treating, stabilizing, or holding wastes are excluded from this definition.

"LC50" means lethal concentration and is the concentration of a toxicant in an external medium that is lethal to fifty percent of the test animals for a specified period of exposure.
"Long-term average flow" means an arithmetic average stream flow over a representative period of record.
"MDL" means the Method Detection Limit and is defined as the minimum concentration of an analyte that can be measured and reported with 99% confidence that the analyte concentration is greater than zero. MDL is dependent upon the analyte of concern.
"Mixing zone" means when a liquid of a different quality than the receiving water is discharged into the receiving water, a mixing zone is formed. Concentration of the liquid within the mixing zone decreases until it is completely mixed with receiving water. A regulatory mixing zone is described in OAC 252:730-5-26.
"Narrative criteria" means statements or other qualitative expressions of chemical, physical or biological parameters that are assigned to protect a beneficial use.
"Natural source" means source of contamination which is not human induced.
"NLW ~~impairment study~~ Impairment Study" means a scientific process of surveying the chemical, physical, and biological characteristics of a nutrient-threatened reservoir to determine whether the reservoir's beneficial uses are being impaired by human-induced eutrophication.
"Nonpoint source" means a source of pollution without a well defined point of origin.
"NTU" means Nephelometric Turbidity Unit, which is the unit of measure using the method based upon a comparison of the intensity of light scattered by the sample under defined conditions with the intensity of light scattered by a standard reference suspension (formazin). The higher the intensity of scattered light, the higher the turbidity.
"Numerical criteria" means concentrations or other quantitative measures of chemical, physical, or biological parameters that are assigned to protect a beneficial use.
"Numerical standard" means the most stringent of the numerical criteria assigned to the beneficial uses for a given stream.
"Nutrient impaired reservoir" means a reservoir with a beneficial use or uses determined by an NLW Impairment Study to be impaired by human-induced eutrophication.
"Nutrient-limited watershed" means a watershed of a waterbody with a designated beneficial use which is adversely affected by excess nutrients as determined by Carlson's Trophic State Index (using chlorophyll-a) of 62 or greater or is otherwise listed as "NLW" in Appendix A of this Chapter.
"Nutrients" means elements or compounds essential as raw materials for an organism's growth and development; these include carbon, oxygen, nitrogen, and phosphorus.
"ORW" means Outstanding Resource Water.
"OWRB" means Oklahoma Water Resources Board.
"Picocurie" means that quantity of radioactive material producing 2.22 nuclear transformations per minute.
"Point source" means any discernable, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, well, discrete fissure, container, rolling stock, or concentrated animal feeding operation from which pollutants are or may be discharged. This term does not include return flows from irrigation agriculture.
"Pollutant" means any material, substance, or property which may cause pollution.
"Pollution" means "*contamination or other alteration of the physical, chemical or biological properties of any natural waters of the State, or such discharge of any liquid, gaseous or solid substance into any waters of the State as will or is likely to create a nuisance or render such waters harmful, or detrimental or injurious to public health, safety or welfare, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life*." [82 O.S. §1084.2(1)].
"Polychlorinated biphenyls" or **"PCBs"** means a group of organic compounds (206 possible) which are constructed of two phenyl rings and more than one chlorine atom.
"PQL" means Practical Quantitation Limit and is defined as 5 times the MDL. The PQL represents a practical and routinely achievable detection limit with high confidence.
"Put and ~~take~~ Take fishery" means the introduction of a fish species into a body of water for the express purpose of sport fish harvest where existing conditions preclude a naturally reproducing population.

"Q*" means dilution capacity.
"Regulatory low flow" means a condition where the flow of water in a stream is significantly reduced, often during prolonged dry weather. This phenomenon is characterized by a decrease in stream flow, which can be defined by specific statistics such as the 7Q2 or 30Q2. Regulatory low flow is important for setting permit discharge limits and ensuring ecological protection, as it can lead to water quality issues and affect water resources. 30Q2 shall be used only for setting discharge permit limits for selenium.
"Salinity" means the concentration of salt in water.
"Sample standard" means the arithmetic mean of historical data from October 1976 to September 1983 except as otherwise provided in Appendix F of this Chapter, plus two standard deviations of the mean.
"Seasonal base flow" means the sustained or fair-weather runoff, which includes but is not limited to groundwater runoff and delayed subsurface runoff.
"Seasonal seven-day, two-year low flow" means the 7-day low flow of a stream likely to occur with a 50% probability for a season with the applicable dates in Table 1 of Appendix G of this Chapter.
"Seasonal 7Q2" means the seasonal seven-day, two-year low flow.
"Sensitive Public and Private Water Supply" or **"SWS"** means those waters of the state which constitute sensitive public and private water supplies as a result of their unique physical conditions.
"Sensitive representative species" ~~means Ceriodaphnia dubia, Daphnia magna, Daphnia pulex, Pimphales promelas (Fathead minnow), Lepomis macrochirus (Bluegill sunfish), or other sensitive organisms indigenous to a particular waterbody.~~ means species with published LC50 value(s) used in toxicity testing such as, but not limited to, *Ceriodaphnia dubia*, *Daphnia magna*, *Daphnia pulex*, *Pimphales promelas* (Fathead minnow), and *Lepomis macrochirus* (Bluegill sunfish), which may either be indigenous to a particular waterbody or used as a surrogate species to represent sensitive vertebrate and invertebrate indigenous species to the waterbody.
~~**"Sensitive Public and Private Water Suppy"** or **"SWS"** means those waters of the state which constitute sensitive public and private water supplies as a result of their unique physical conditions.~~
"SWS-R" means waterbodies classified as sensitive public and private water supplies that may be augmented with reclaimed water for the purpose of indirect potable reuse.
"Seven-day, two-year low flow" means the 7-day low flow of a stream likely to occur with a 50% probability each year.
"Standard deviation" means a statistical measure of the dispersion around the arithmetic mean of the data.
"Standard Methods" means the publication "Standard Methods for the Examination of Water and Wastewater," published jointly by the American Public Health Association, American Water Works Association, and Water Environment Federation.
"Standards" means, when capitalized, this Chapter, which constitutes the Oklahoma Water Quality Standards described in 82 O.S. §1085.30. Whenever this term is not capitalized or is singular, it means the most stringent of the criteria assigned to protect the beneficial uses designated for a specified water of the State.
"Steady-state" refers to an aquatic ecosystem where the inputs are stable, and the bioaccumulation of toxins or inputs has reached homeostasis within organisms in the system. DEQ will require a waiting period of 6 months in rivers and streams, and 3 years in lakes following any major changes to system inputs or discharges.
"Stormwater" means storm water runoff, snow melt runoff, and surface runoff and drainage.
"Subwatershed" means a smaller component of the larger watershed.
"Thermal pollution" means degradation of water quality by the introduction of heated effluent and is primarily a result of the discharge of the cooling water from industrial processes. particularly from electrical power generation."
"Thermal stratification" means horizontal layers of different densities produced in a lake caused by temperature.
"Total Dissolved Selenium" or **"TDSe"** means a measure of the combined content of all species of selenium that are dissolved in the water column and small enough to pass through a 0.45 micron (µm) filter.
"Variance" means a time-limited designated use and criterion for a specific pollutant(s) or water quality parameter(s) that reflect the highest attainable condition during the term of the water quality standards variance.
"Warm Water Aquatic Community" or **"WWAC"** means a subcategory of the beneficial use category "Fish and Wildlife Propagation" where the water quality and habitat are adequate to support intolerant climax fish communities and includes an environment suitable for the full range of warm water benthos.
"Wastes" means "*industrial waste and all other liquid, gaseous or solid substances which may pollute or tend to pollute any waters of the state.*" [82 O. S. §1084.2(2)].
"Water quality" means physical, chemical, and biological characteristics of water which determine diversity, stability, and productivity of the climax biotic community or affect human health.
"Waterbody" means any specified segment or body of waters of the state, including but not limited to an entire stream or lake or a portion thereof.
~~**"Water quality"** means physical, chemical, and biological characteristics of water which determine diversity, stability, and productivity of the climax biotic community or affect human health.~~
"Waters of the state" means "*all streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, which are contained within, flow through, or border upon this State or any portion thereof."* [82 O.S. § 1084.2(3)].
"Watershed" means the drainage area of a waterbody including all direct or indirect tributaries.
"Yearly mean standard" means the arithmetic mean of historical data from October 1976 to September 1983 except as otherwise provided in Appendix F of this Chapter, plus one standard deviation of the mean. The moving yearly mean standard is an average of

the last five years of available data.
"Zone of passage" means a three-dimensional zone expressed as a volume in the receiving stream through which mobile aquatic organisms may traverse the stream past a discharge without being affected by it. A regulatory zone of passage is described in OAC 252:730-5-26.

252:730-1-3. Adoption and enforceability of the standards
(a) The Oklahoma Water Quality Standards are adopted and promulgated as rules by the Oklahoma Department of Environmental Quality pursuant to the procedures specified in the Oklahoma Administrative Procedures Act, 75 O.S., § 250 et. seq., and the procedures and substantive law provided in 82 O.S., §1085.30, and are fully enforceable under the laws of Oklahoma.
(b) All waters of the stateare protected by these Standards.
(c) Oklahoma Water Quality Standards adopted and promulgated by the Oklahoma Department of Environmental Quality shall be applicable to all activities which may affect the water quality of waters of the state and shall be utilized by all appropriate state environmental agencies in implementing their respective duties to abate and prevent pollution to waters of the state.

SUBCHAPTER 3. ANTIDEGRADATION REQUIREMENTS

252:730-3-2. Applications of antidegradation policy
(a) **Application to Outstanding Resource Waters (ORW).** Certain waters of the state constitute an outstanding resource or have exceptional recreational and/or ecological significance. These waters include streams designated "Scenic River" or "ORW" in Appendix A of this Chapter, and waters of the State located within watersheds of Scenic Rivers. Additionally, these may include waters located within National and State parks, forests, wilderness areas, wildlife management areas, and wildlife refuges, and waters which contain species listed pursuant to the federal Endangered Species Act as described in OAC 252:730-5-25(c)(2)(A) and OAC 252:740-13-6(c). No degradation of water quality shall be allowed in these waters.
(b) **Application to High Quality Waters (HQW).** It is recognized that certain waters of the state possess existing water quality which exceeds those levels necessary to support propagation of fishes, shellfishes, wildlife, and recreation in and on the water. These high quality waters shall be maintained and protected.
(c) **Application to Sensitive Public and Private Water Supplies (SWS) and SWS-R.** It is recognized that certain public and private water supplies possess conditions that make them more susceptible to pollution events and require additional protection. These sensitive water supplies shall be maintained and protected.
(d) **Application to beneficial uses.** Except as provided by 27A O.S. § 1-3-101(B), and subject to the provisions of ~~85 O.S. § 1085.30~~27A O.S. § 2-6-103.2, no water quality degradation which will interfere with the attainment or maintenance of an existing or designated beneficial use shall be allowed.
(e) **Application to improved waters.** As the quality of any waters of the state improve, no degradation of such improved waters shall be allowed.

SUBCHAPTER 5. SURFACE WATER QUALITY STANDARDS

PART 1. GENERAL PROVISIONS

252:730-5-2. Beneficial uses: existing and designated
(a) Beneficial uses are designated for all waters of the state. Such uses are protected through the restrictions imposed by the antidegradation policy statement, narrative criteria and numerical standards. Some uses require higher quality water than others. When multiple uses are assigned to the same waters, all such uses shall be protected. Beneficial uses are also protected by permits or other authorizations issued to meet these Standards for point sources and through practical management or regulatory programs for nonpoint sources. The criteria to protect the beneficial uses designated in OAC 252:730-5-3 or in Appendix A of this Chapter for certain surface waters of the state are described in sections OAC 252:730-5-10 through OAC 252:730-5-20 of this Chapter.
(b) Beneficial uses designated in OAC 252:730-5-3 or in Appendix A of this Chapter for certain surface waters of the state may be downgraded to a lower use or removed entirely, or subcategories of such designated uses may be established, if:

(1) the use, despite being designated, is not a use which is or has been actually attained in the water body on or after November 28, 1975; and

(2) for the use of Fish and Wildlife Propagation, Primary Body Contact Recreation or Secondary Body Contact Recreation, or any subcategory of such use or uses, it is demonstrated to the satisfaction of DEQ and the ~~U.S. E.P.A.~~ EPA that attaining the designated use is not feasible because:

(A) naturally occurring pollutant concentrations prevent the attainment of the use, or

(B) natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating state water conservation requirements to enable uses to be met, or

(C) human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place, or

(D) dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use, or

(E) physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses, or

(F) controls more stringent than those required by sections 301(b) and 306 of the federal Clean Water Act as amended would result in substantial and widespread economic and social impact; and

(3) such downgrade, removal, or establishment of a subcategory will maintain or improve the quality of water affected.

252:730-5-4. Applicability of narrative and numerical criteria

(a) For purposes of permitting discharges for attainment of numerical criteria or establishing ~~site specific~~ site-specific criteria, streamflows of the greater of 1~~.0~~ cfs or ~~7Q2~~ the regulatory low flow shall be used to determine appropriate permit conditions unless otherwise provided in OAC 252:730 or OAC 252:740.

(b) When numerical criteria do not apply, water column conditions including dissolved oxygen concentrations, organoleptic compounds, nutrients, and oil and grease shall be maintained to prevent nuisance conditions caused by man's activities.

(c) Narrative criteria listed in this Chapter shall be maintained at all times and apply to all surface waters of the state.

(d) If more than one narrative or numerical criteria is assigned to a stream, the most stringent shall be maintained.

PART 3. BENEFICIAL USES AND CRITERIA TO PROTECT USES

252:730-5-10. Public and private water supplies

The following criteria apply to surface waters of the state having the designated beneficial use of Public and Private Water Supplies:

(1) **Raw water numerical criteria.** For surface water designated as public and private water supplies, the numerical criteria for substances identified under the "Public and Private Water Supply (Raw Water)" column in Table 2 of Appendix G of this Chapter shall not be exceeded. Raw water numerical criteria are considered long-term average standards. For purposes of permitting discharges for attainment of these standards, the permitting authority shall use long-term average receiving stream flows and complete mixing of effluent and receiving water to determine appropriate permit limits.

(2) **Radioactive materials.**

(A) There shall be no discharge of radioactive materials in excess of the criteria found in Title 10 Code of Federal Regulations Part 20, Appendix B, Table 2.

(B) The concentration of gross alpha particles shall not exceed the criteria specified in ~~(A) through (D)~~ (i) through (iv) of this subparagraph, or the naturally occurring concentration, whichever is higher.

(i) The combined dissolved concentration of Radium-226 and Radium-228, and Strontium-90, shall not exceed 5 picocuries/liter, and 8 picocuries/liter, respectively.

(ii) Gross alpha particle concentrations, including Radium-226 but excluding radon and uranium, shall not exceed 15 picocuries/liter.

(iii) The gross beta concentration shall not exceed 50 picocuries/liter.

(iv) The average annual concentration of beta particle and photon radioactivity from man-made radionuclides in waters having the designated use of Public and Private Water Supply shall not produce an annual dose equivalent to the total body or any internal organ greater than 4 millirem/year.

(3) **Coliform bacteria.**

(A) The bacteria of the total coliform group shall not exceed a monthly geometric mean of ~~5,000/100 ml~~ 5,000 cfu per 100 mL at a point of intake for public or private water supply.

(B) The geometric mean will be determined by multiple tube fermentation or membrane filter procedures based on a minimum of not less than ~~five (5)~~ four (4) samples taken over a period of not more than thirty (30) days.

(C) Further, in no more than 5% of the total samples during any thirty (30)-day period shall the bacteria of the total coliform group exceed ~~20,000/100 ml.~~ 20,000 cfu per 100 mL.

(D) In cases where both public and private water supply and primary body contact recreation uses are designated, the primary body contact criteria will apply.

(4) **Oil and grease (petroleum and non-petroleum related).** For Public and Private Water Supplies, surface waters of the state shall be maintained free from oil and grease and taste and odors.

(5) **General criteria.**

(A) The quality of the surface waters of the state which are designated as public and private water supplies shall be protected, maintained, and improved when feasible, so that the waters can be used as sources of public and private raw water supplies.

(B) These waters shall be maintained so that they will not be toxic, carcinogenic, mutagenic, or teratogenic to humans.

(6) **Water column criteria to protect for the consumption of fish flesh and water.**

(A) Surface waters of the state with the designated beneficial use of Public and Private Water Supply shall be protected to allow for the consumption of fish, shellfish, and water.
(B) The water column numerical criteria to protect human health for the consumption of fish flesh and water for the substances identified in Table 2 of Appendix G of this Chapter shall be as prescribed under the "Fish Consumption and Water" column in Table 2 of Appendix G in all surface waters designated with the beneficial use of Public and Private Water Supply. Water column numerical criteria to protect human health for the consumption of fish flesh and water are considered long-term average standards. For purposes of permitting discharges for attainment of these standards, the permitting authority shall use long-term average receiving stream flows and complete mixing of effluent and receiving water to determine appropriate permit limits. Water column criteria to protect human health for the consumption of fish flesh only may be found in the column "Fish Consumption" in Table 2 of Appendix G of this Chapter.

(7) **Chlorophyll-a numerical criterion for certain waters.** The long-term average concentration of chlorophyll-a at a depth of 0.5 meters below the surface shall not exceed 0.010 ~~milligrams per liter~~ mg/L in Wister Lake, Tenkiller Ferry Reservoir, nor any waterbody designated SWS or SWS-R in Appendix A of this Chapter. Wherever such criterion is exceeded, numerical phosphorus or nitrogen criteria or both may be promulgated.

(8) **Phosphorus numerical criterion applicable to certain waters.** The long-term average total phosphorus concentration at a depth of 0.5 meters below the surface shall not exceed 0.0168 ~~milligrams per liter~~ mg/L in Lake Eucha and 0.0141 ~~milligrams per liter~~ mg/L in Spavinaw Lake.

252:730-5-12. Fish and wildlife propagation

(a) **List of subcategories.** The narrative and numerical criteria in this section are designed to maintain and protect the beneficial use classification of "Fish and Wildlife Propagation". This classification encompasses several subcategories which are capable of sustaining different climax communities of fish and shellfish. These subcategories are Habitat Limited Aquatic Community, Warm Water Aquatic Community, Cool Water Aquatic Community (Excluding Lake Waters), and Trout Fishery (Put and Take).

(b) **Habitat Limited Aquatic Community subcategory.**

(1) Habitat ~~limited aquatic community~~ Limited Aquatic Community means a subcategory of the beneficial use "Fish and Wildlife Propagation" where the water chemistry and habitat are not adequate to support a "Warm Water Aquatic Community" because:

(A) Naturally occurring water chemistry prevents the attainment of the use; or
(B) Naturally occurring ephemeral, intermittent or low flow conditions, or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of a sufficient volume of effluent to enable uses to be met; or
(C) Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or
(D) Dams, diversions, or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the waterbody to its original condition or to operate such modification in a way that would result in the attainment of the use; or
(E) Physical conditions related to the natural features of the waterbody, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of the "Warm Water Aquatic Community" beneficial use.

(2) Habitat Limited Aquatic Community may also be designated where controls more stringent than those required by sections 301(b) and 306 of the federal Clean Water Act as amended, which would be necessary to meet standards or criteria associated with the beneficial use subcategories of Cool Water Aquatic Community or Warm Water Aquatic Community, would result in substantial and widespread economic and social impact.

(c) **Warm Water Aquatic Community subcategory.** Warm Water Aquatic Community means a subcategory of the beneficial use category "Fish and Wildlife Propagation" where the water quality and habitat are adequate to support intolerant climax fish communities and includes an environment suitable for the full range of warm water benthos.

(d) **Cool Water Aquatic Community subcategory.** Cool Water Aquatic Community means a subcategory of the beneficial use category "Fish and Wildlife Propagation" where the water quality, water temperature, and habitat are adequate to support cool water climax fish communities and includes an environment suitable for the full range of cool water benthos. Typical species may include smallmouth bass, certain darters, and stoneflies.

(e) **Trout Fishery subcategory.** Trout Fishery (Put and Take) means a subcategory of the beneficial use category "Fish and Wildlife Propagation" where the water quality, water temperature, and habitat are adequate to support a seasonal put and take trout fishery. Typical species may include trout.

(f) **Criteria used in protection of Fish and Wildlife Propagation.** The narrative and numerical criteria to maintain and protect the use of "Fish and Wildlife Propagation" and its subcategories shall include:

(1) **Dissolved oxygen.**

(A) Dissolved oxygen (DO) criteria are designed to protect the diverse aquatic communities of Oklahoma.
(B) Allowable loadings designed to attain these dissolved oxygen criteria are provided as follows:

(i) For streams with sufficient historical data, the allowable load shall be based on meeting the dissolved oxygen concentration standard at the seven-day, two-year low flow and the appropriate seasonal

temperatures prescribed in Table 1 of Appendix G of this Chapter.

(ii) For streams lacking sufficient historical data, or when the appropriate flow is less than ~~one (1) cubic foot per second (cfs)~~ 1 cfs, the allowable load shall be based on meeting the dissolved oxygen concentration standard at ~~one (1) cfs~~ 1 cfs and the appropriate seasonal temperature.

(iii) Provided, for streams designated in OAC 252:730 Appendix A as HLAC or WWAC which have sufficient historical data as determined by the permitting authority, the allowable BOD load may be based upon meeting the dissolved oxygen concentration standard at the applicable seasonal temperature and corresponding seasonal seven-day, two-year low flow.

(iv) Provided further, in stream segments where dams or other structures have substantially affected the historic flow regime of the stream segment, including but not limited to the portions of the Verdigris and Arkansas Rivers constituting the McClellan-Kerr Arkansas River Navigation System, a properly designed and implemented site-specific hydrologic study approved by the permitting authority and DEQ may be used to determine the appropriate regulatory low flow. In such circumstances, the allowable BOD load may be based upon meeting the dissolved oxygen concentration standard at the applicable seasonal temperature and the site-specific regulatory low flow.

(C) Except for naturally occurring conditions, the dissolved oxygen criteria are as set forth in Table 1 of Appendix G of this Chapter. Additionally;

(i) For streams, no more than two DO samples shall exhibit a DO concentration of less than 2.0 mg/L in any given year.

(ii) For lakes, no more than 50% of the water volume shall exhibit a DO concentration less than 2.0 mg/L. If no volumetric data is available, then no more than 70% of the water column at any given sample site shall exhibit a DO concentration less than 2.0 mg/L. If a lake-specific study including historical analysis demonstrates that a different percent volume or percent water column than described above is protective of the WWAC use, then that lake-specific result takes precedence.

(2) **Temperature.**

(A) At no time shall heat be added to any surface water in excess of the amount that will raise the temperature of the receiving water more than 2.8°C outside the mixing zone.

(B) The normal daily and seasonal variations that were present before the addition of heat from other than natural sources shall be maintained.

(C) In streams, temperature determinations shall be made by averaging representative temperature measurements of the ~~cross sectional~~ cross-sectional area of the stream at the end of the mixing zone.

(D) In lakes, the temperature of the water column and/or epilimnion, if thermal stratification exists, shall not be raised more than 1.7°C above that which existed before the addition of heat of artificial origin, based upon the average of temperatures taken from the surface to the bottom of the lake, or surface to the bottom of the epilimnion if the lake is stratified.

(E) No heat of artificial origin shall be added that causes the receiving stream water temperature to exceed the maximums specified below:

(i) The critical temperature plus 2.8°C in ~~warm water and habitat limited aquatic community~~ Warm Water and Habitat Limited Aquatic Community streams and lakes, except in the segment of the Arkansas River from Red Rock Creek to the headwaters of Keystone Reservoir where the maximum temperature shall not exceed 34.4°C.

(ii) 28.9°C in streams designated ~~cool water aquatic community.~~ Cool Water Aquatic Community.

(iii) 20°C in streams designated ~~trout fishery (put and take).~~ Trout Fishery (Put and Take).

(F) Water in privately-owned reservoirs used in the process of cooling water for industrial purposes is exempt from these temperature restrictions, provided the water released from any such lake or reservoir into a stream system shall meet the water quality standards of the receiving stream.

(3) **pH (hydrogen ion activity).** The pH values shall be between 6.5 and 9.0 in waters designated for ~~fish and wildlife propagation~~ Fish and Wildlife Propagation, unless pH values outside that range are due to natural conditions.

(4) **Oil and grease (petroleum and non-petroleum related).**

(A) All waters having the designated beneficial use of any subcategory of Fish and Wildlife Propagation shall be maintained free of oil and grease to prevent a visible sheen of oil or globules of oil or grease on or in the water.

(B) Oil and grease shall not be present in quantities that adhere to stream banks and coat bottoms of water courses or which cause deleterious effects to the biota.

(5) **Biological criteria.**

(A) Aquatic life in all waterbodies with the beneficial use designation of Fish and Wildlife Propagation (excluding waters designated "Trout~~, put-and-take"~~ Put and Take") shall not exhibit degraded conditions as indicated by one or both of the following:

(i) Comparative regional reference data from a station of reasonably similar watershed size or flow, habitat type, and Fish and Wildlife beneficial use subcategory designation or

(ii) By comparison with historical data from the waterbody being evaluated.

(B) Compliance with the biological criteria to protect Fish and Wildlife Propagation set forth in this paragraph shall be based upon measures including, but not limited to, diversity, similarity, community structure, species tolerance, trophic structure, dominant species, indices of biotic integrity ~~(IBI's)~~ (IBIs), indices of ~~well being (IWB's)~~ wellbeing (IWBs), or other measures.

(6) **Toxic substances (for protection of fish and wildlife).**

(A) Surface waters of the state shall not exhibit acute toxicity and shall not exhibit chronic toxicity outside the chronic regulatory mixing zone. Acute test failure and chronic test failure shall be used to determine discharger compliance with these narrative aquatic life toxics criteria. The narrative criterion specified in this subparagraph (A) which prohibits acute toxicity shall be maintained at all times and shall apply to all surface waters of the state. The narrative criterion specified in this subparagraph (A) which prohibits chronic toxicity shall apply at all times outside the chronic regulatory mixing zone and within the zone of passage to all waters of the state except:

(i) When a discharge into surface waters designated with the Fish and Wildlife Propagation beneficial use complies with and meets the discharge permit limitations but the flow immediately upstream from the discharge is less than ~~one (1) cubic foot per second~~ 1 cfs or when the flow falls below the seven-day, two-year low flow, whichever is larger. For purposes of the permitting process, the regulatory low flow shall be the larger of ~~one (1) cubic foot per second~~ 1 cfs or the seven-day, two-year low flow; and

(ii) To streams listed as ephemeral in Appendix A.

(B) Procedures to implement these narrative criteria are found in OAC 252:740 Subchapter 3.

(C) Toxicants for which there are specific numerical criteria are listed in Table 2 of Appendix G of this Chapter.

(D) For toxicants not specified in Table 2 of Appendix G of this Chapter, concentrations of toxic substances with bio-concentration factors of 5 or less shall not exceed 0.1 of published LC50 value(s) for sensitive representative species using standard testing methods, giving consideration to site-specific water quality characteristics.

(E) Concentrations of toxic substances with bio-concentration factors greater than 5 shall not exceed 0.01 of published LC50 value(s) for sensitive representative species using standard testing methods, giving consideration to site-specific water quality characteristics.

(F) Permit limits to prevent toxicity caused by discharge of chlorine and ammonia are determined pursuant to the narrative criteria contained within (A) and (B) of this paragraph.

(G) The acute and chronic numerical criteria listed in the "Fish and Wildlife Propagation" column in Table 2 of Appendix G of this Chapter apply to all waters of the state designated with any of the beneficial use sub-categories of Fish and Wildlife Propagation. The numerical criteria which prohibit acute toxicity apply outside the acute regulatory mixing zone.

(i) The numerical criteria specified in Table 2 of Appendix G which prohibit chronic toxicity shall apply at all times outside the chronic regulatory mixing zone and within the zone of passage to all waters of the state except:

(I) When a discharge into surface waters designated with the Fish and Wildlife Propagation beneficial use complies with and meets the discharge permit limitations but the flow immediately upstream from the discharge is less than ~~one (1) cubic foot per second~~ 1 cfs or when the flow falls below the seven-day, two-year low flow, whichever is larger. For purposes of the permitting process, the regulatory low flow shall be the larger of ~~one (1) cubic foot per second~~ 1 cfs or the seven-day, two-year low flow; and

(II) To streams listed as ephemeral in Appendix A.

(ii) Equations are presented in Table 2 of Appendix G for those substances whose toxicity varies with water chemistry.

(H) For purposes of assessment per OAC 252:740-15-5, the conversion factors identified in Table 3 of Appendix G of this Chapter may be used to convert the total recoverable metals criteria set forth in Table 2 of Appendix G into dissolved metals values. Such dissolved metals values may be determined by multiplying the total recoverable numerical criteria in OAC 252:730 Appendix G, Table 2 by the conversion factors identified in Table 3 of Appendix G.

(7) **Turbidity.**

(A) Turbidity from other than natural sources shall be restricted to not exceed the following numerical limits:

(i) Cool Water Aquatic Community/Trout Fisheries: 10 NTUs;

(ii) Lakes: 25 NTUs; and

(iii) Other surface waters: 50 NTUs.

(B) In waters where background turbidity exceeds these values, turbidity from point sources shall be restricted to not exceed ambient levels.

(C) Numerical criteria listed in (A) of this paragraph apply only to seasonal base flow conditions.

(D) Elevated turbidity levels may be expected during, and for several days after, a runoff event.

(8) **Sediments.** Concentrations or loads of suspended or bedded sediments that are caused by human activity shall not impair the Fish and Wildlife Propagation use or any subcategory thereof.

252:730-5-13. Agriculture

(a) **General.** The surface waters of the state shall be maintained so that toxicity does not inhibit continued ingestion by livestock or irrigation of crops.
(b) **Definitions.** The following words and terms, when used in this Section, shall have the following meaning unless the context clearly indicates otherwise:

(1) "Long-term average concentration" means the arithmetic mean of at least ten samples taken across at least twelve months.

(2) "Short-term average concentration" means the arithmetic mean of all samples taken during any 30-day period.

(c) **Subcategories of the Agriculture beneficial use.**

(1) The narrative and numerical criteria stated or referenced in this ~~section~~ Section and in Appendix F of this ~~chapter~~ Chapter are designed to maintain and protect the beneficial use classification of "Agriculture". This classification encompasses two subcategories which are capable of sustaining different agricultural applications. These subcategories are Irrigation Agriculture and Livestock Agriculture.

(2) Irrigation Agriculture means a subcategory of the Agriculture beneficial use requiring water quality conditions that are dictated by individual crop tolerances.

(3) Livestock Agriculture is a subcategory of the Agriculture beneficial use requiring much less stringent protection than crop irrigation.

(4) If a waterbody is designated in Appendix A of this Chapter with the Agriculture beneficial use but does not have a designation of a subcategory thereof, the criteria for Irrigation Agriculture shall be applicable.

(d) **Highly saline water.** Highly saline water should be used with best management practices as outlined in "Diagnosis and Reclamation of Saline Soils," United States Department of Agriculture Handbook No. 60 (1958).
(e) **General criteria for the protection of Irrigation Agriculture.** This subsection prescribes general criteria to protect the Irrigation Agriculture subcategory. For chlorides, sulfates, and total dissolved solids (TDS) at 180 °C (see Standard Methods), the arithmetic mean of the concentration of the samples taken for a year in a particular segment shall not exceed the historical "yearly mean standard" determined from the table in Appendix F of this Chapter. For permitting purposes, the long-term average concentration shall not exceed the yearly mean standard. Yearly mean standards shall be implemented by the permitting authority using the greater of 1.47 cfs or long-term average flows and complete mixing of effluent and receiving water. For permitting purposes, the short term average concentration shall not exceed the sample standard. Sample standards shall be implemented by the permitting authority using the greater of 1.0 cfs or short term average flows and complete mixing of effluent and receiving water. The data from sampling stations in each segment are averaged, and the mean chloride, sulfate, and total dissolved solids at 180 °C are presented in Appendix F of this Chapter. Segment averages shall be used unless more appropriate data are available.
(f) **Historic concentrations.** The table in Appendix F of this Chapter contains statistical values from historical water quality data of mineral constituents. In cases where mineral content varies within a segment, the most pertinent data available should be used.
(g) **Criteria to protect Irrigation Agriculture subcategory.** For the purpose of protecting the Irrigation Agriculture subcategory, neither long-term average concentrations nor short term average concentrations of minerals shall be required to be less than 700 mg/L for TDS, nor less than 250 mg/L for either chlorides or sulfates.
(h) **Criteria to protect Livestock Agriculture subcategory.** For the purpose of protecting the Livestock Agriculture subcategory, neither long-term average concentrations nor short term average concentrations of minerals shall be required to be less than ~~2500~~ 2,500 mg/L for TDS.
(i) **Support tests.** For purposes of assessment, listing and reporting under ~~sections~~ Sections 303(d) and 305(b) of the federal Clean Water Act as amended, the procedure for determining use support of the Agriculture beneficial use or any subcategory thereof with respect to TDS, chlorides and sulfates shall be as follows:

(1) The Agriculture beneficial use designated for a waterbody shall be deemed to be fully supported with respect to TDS or chlorides or sulfates if both the mean of all sample concentrations calculated for that parameter from that waterbody do not exceed the yearly mean standard prescribed in OAC 252:730 Appendix F or ~~site specific~~ site-specific criteria prescribed in OAC 252:730 Appendix E, and no more than 10% of the sample concentrations from that waterbody exceed the sample standard prescribed in OAC 252:730 Appendix F or ~~site specific~~ site-specific criteria prescribed in OAC 252:730 Appendix E.

(2) The Agriculture beneficial use designated for a waterbody shall be deemed to be not supported with respect to TDS or chlorides or sulfates if either the mean of all sample concentrations calculated for that parameter from that waterbody exceeds the yearly mean standard prescribed in OAC 252:730 Appendix F or site specific criteria prescribed in OAC 252:730 Appendix E, or greater than 10% of the sample concentrations from that waterbody exceed the sample standard prescribed in Appendix F or ~~site specific~~ site-specific criteria prescribed in OAC 252:730 Appendix E. Provided, if the sample concentrations are each less than 700 mg/L for TDS, or less than 250 mg/L for either chlorides or sulfates, then the Agriculture beneficial use shall be deemed to be fully supported for that parameter.

252:730-5-16. Primary Body Contact Recreation

(a) Primary Body Contact Recreation involves direct body contact with the water where a possibility of ingestion exists. In these cases the water shall not contain chemical, physical or biological substances in concentrations that are irritating to skin or sense organs or are toxic or cause illness upon ingestion by human beings.
(b) In waters designated for Primary Body Contact Recreation the following limits for bacteria set forth in (c) of this ~~section~~ Section shall apply only during the recreation period of May 1 to September 30. The criteria for Secondary Body Contact Recreation will

apply during the remainder of the year.
(c) Compliance with OAC 252:730-5-16 shall be based upon meeting the requirements of one of the options specified in (1) or (2) of this subsection (c) for bacteria. Upon selection of one (1) group or test method, said method shall be used exclusively over the time period prescribed therefore. Provided, where concurrent data exist for multiple bacterial indicators on the same waterbody or waterbody segment, no criteria exceedances shall be allowed for any indicator group.

(1) *Escherichia coli (E. coli):* ~~The E. coli geometric mean criterion is 126/100 ml. For swimming advisory and permitting purposes, E. coli shall not exceed a monthly geometric mean of 126/100 ml based upon a minimum of not less than five (5) samples collected over a period of not more than thirty (30) days. For swimming advisory and permitting purposes, no sample shall exceed a 75% one-sided confidence level of 235/100 ml in lakes and high use waterbodies and the 90% one-sided confidence level of 406/100 ml in all other Primary Body Contact Recreation beneficial use areas. These values are based upon all samples collected over the recreation period. For purposes of sections 303(d) and 305(b) of the federal Clean Water Act as amended, beneficial use support status shall be assessed using only the geometric mean criterion of 126/100 milliliters compared to the geometric mean of all samples collected over the recreation period.~~For swimming advisory purposes, no sample shall exceed 235 cfu per 100 mL in all Primary Body Contact Recreation beneficial use areas. This value is based on samples collected over the recreation period. For permitting purposes, *E. coli* shall not exceed a monthly geometric mean of 126 cfu per 100 mL based upon a minimum of not less than five (5) samples collected over a period of not more than thirty (30) days. Within the same 30-day interval, there should not be greater than a ten percent excursion of the statistical threshold value of 406 cfu per 100 mL. These values are based upon all samples collected over the recreation period. The Secondary Body Contact Recreation criteria shall apply during the remainder of the year. For purposes of Sections 303(d) and 305(b) of the federal Clean Water Act as amended, beneficial use support status shall be assessed using only the geometric mean criterion of 126 cfu per 100 mL compared to the geometric mean of all samples collected over the recreation period.

(2) ~~Enterococci~~ Enterococci: ~~The Enterococci geometric mean criterion is 33/100 ml. For swimming advisory and permitting purposes, Enterococci shall not exceed a monthly geometric mean of 33/100 ml based upon a minimum of not less than five (5) samples collected over a period of not more than thirty (30) days. For swimming advisory and permitting purposes, no sample shall exceed a 75% one-sided confidence level of 61/100 ml in lakes and high use waterbodies and the 90% one-sided confidence level of 108/100 ml in all other Primary Body Contact Recreation beneficial use areas. These values are based upon all samples collected over the recreation period. For purposes of sections 303(d) and 305(b) of the federal Clean Water Act as amended, beneficial use support status shall be assessed using only the geometric mean criterion of 33/100 milliliters compared to the geometric mean of all samples collected over the recreation period.~~For swimming advisory purposes, no sample shall exceed 61 cfu per 100 mL in all Primary Body Contact Recreation beneficial use areas. This value is based on samples collected over the recreation period. For permitting purposes, enterococci shall not exceed a monthly geometric mean of 33 cfu per 100 mL based upon a minimum of not less than five (5) samples collected over a period of not more than thirty (30) days. Within the same 30-day interval, there should not be greater than a ten percent excursion of the statistical threshold value of 108 cfu per 100 mL. These values are based upon all samples collected over the recreation period. The Secondary Body Contact Recreation criteria shall apply during the remainder of the year. For purposes of Sections 303(d) and 305(b) of the federal Clean Water Act as amended, beneficial use support status shall be assessed using only the geometric mean criterion of 33 cfu per 100 mL compared to the geometric mean of all samples collected over the recreation period.

252:730-5-17. Secondary Body Contact Recreation

(a) ~~The water quality requirements for Secondary Body Contact Recreation are usually not as stringent as for Primary Body Contact Recreation.~~ The Secondary Body Contact Recreation beneficial use is designated where ingestion of water is not anticipated. Associated activities may include boating, fishing, or wading.

(b) ~~The Secondary Body Contact Recreation beneficial use is designated where ingestion of water is not anticipated.~~ Secondary Body Contact Recreation criteria are calculated using a ratio of water ingestion during secondary activities compared to primary activities. The criterion was calculated using ingestion values for kayaking, the Secondary Body Contact Recreation activity with the highest measured ingestion rate.

(c) ~~Associated activities may include boating, fishing, or wading.~~*Escherichia coli (E. coli)*: The *E. coli* geometric mean criterion is 242 cfu per 100 mL and the statistical threshold value is 781 cfu per 100 mL. For purposes of Sections 303(d) and 305(d) of the federal Clean Water Act as amended, beneficial use support status shall be assessed using only the geometric mean criterion of 242 cfu per 100 mL. For permitting purposes, *E. coli* shall not exceed a monthly geometric mean of 242 cfu per 100 mL based upon a minimum of not less than four (4) samples collected over a period of not more than thirty (30) days. Within the same 30-day interval, there should be no greater than a ten percent excursion of the statistical threshold value of 781 cfu per 100 mL.

(d) ~~Waters so designated shall be maintained to be free from human pathogens in numbers which may produce adverse health effects in humans.~~ Enterococci: The enterococci geometric mean criterion is 63 cfu per 100 mL and the statistical threshold value is 208 cfu per 100 mL. For purposes of Sections 303(d) and 305(b), of the federal Clean Water Act as amended, beneficial use support status shall be assessed using only the geometic mean of 63 cfu per 100mL. For permitting purposes, enterococci shall not exceed a monthly geometric mean of 63 cfu per 100 mL based upon a minimum of not less than four (4) samples collected over a period of not more than thirty (30) days. Within the same 30-day interval, there should not be greater than a ten percent excursion of the statistical threshold value of 208 cfu per 100 mL.

PART 5. SPECIAL PROVISIONS

252:730-5-25. Implementation policies for the antidegradation policy statement

(a) The following provisions set forth exceptions to the limitations stated in OAC 252:730-5-25(c) for additional protection of certain waters of the state:

(1) The limitations contained in OAC 252:730-5-25(c)(1) for additional protection of Outstanding Resource Waters shall apply to all discharges from point sources, except such limitations do not apply to discharges of stormwater from temporary construction activities. Discharges of stormwater from point sources existing as of June 25, 1992, whether or not such stormwater discharges were permitted as point sources prior to June 25, 1992, are also excepted from the OAC 252:730-5-25(c)(1) rule prohibiting any new point source discharges, but such stormwater discharges are prohibited from increased load of any pollutant.

(2) The limitations for additional protection of Appendix B Waters (OAC 252:730-5-25(c)(2)), High Quality Waters (OAC 252:730-5-25(c)(3)), Sensitive Public and Private Water Supplies (OAC 252:730-5-25(c)(4)), and SWS-R waterbodies (OAC 252:730-5-25(c)(8)) shall apply to discharges from all point sources except point source discharges of stormwater.

(b) For purposes of OAC 252:730-5-25, the term "specified pollutants" means:

(1) Oxygen demanding substances, measured as Carbonaceous Biochemical Oxygen Demand (CBOD) and/or Biochemical Oxygen Demand (BOD);

(2) Ammonia Nitrogen and/or Total Organic Nitrogen;

(3) Phosphorus;

(4) Total Suspended Solids (TSS);

(5) Such other substances as may be determined by DEQ.

(c) The following limitations for additional protection apply to various waters of the state:

(1) **Outstanding Resource Waters (ORW).**

(A) Outstanding Resource Waters (ORW) are those waters of the state which constitute outstanding resources or are of exceptional recreational and/or ecological significance as described in OAC 252:730-3-2(a).

(B) The following waterbodies are prohibited from having any new point source discharge(s) of any pollutant or increased load of any pollutant from existing point source discharge(s):

(i) Waterbodies designated "ORW" and/or "Scenic River" in Appendix A of this Chapter;

(ii) Waterbodies located within the watersheds of waterbodies designated "Scenic River" in Appendix A of this Chapter; and

(iii) Waterbodies located within the boundaries of Appendix B areas which are specifically designated "ORW" in Appendix A of this Chapter.

(2) **Appendix B Waters.**

(A) Appendix B waters are those waters of the state which are located within the boundaries of areas listed in Appendix B of this Chapter, including but not limited to the National and State parks, forests, wilderness areas, wildlife management areas, and wildlife refuges. Appendix B also may include those areas which are inhabited by federally listed, threatened or endangered species, and other appropriate areas.

(B) Only those Appendix B waters specifically designated "ORW" in Appendix A of this Chapter shall be afforded the limitations for additional protection described in OAC 252:730-5-25(c)(1)(B).

(C) New discharges or increased loading from existing discharges to Appendix B waters may be allowed under such conditions that ensure that the recreational and ecological significance of these waters will be maintained.

(D) Discharges or other activities associated with those waters listed in Appendix B, Table 2 containing federally listed threatened or endangered species may be restricted through agreements between appropriate regulatory agencies and the United States Fish and Wildlife Service.

(3) **High Quality Waters (HQW).**

(A) High Quality Waters (HQW) are those waters of the state whose historic water quality and physical habitat provide conditions suitable for the support of sensitive and intolerant climax communities of aquatic organisms whether or not that waterbody currently contains such a community, support high levels of recreational opportunity, and are designated "HQW" waters in Appendix A of this Chapter. These waters will generally have higher quality habitat, a more diverse and more intolerant biotic community, and, as a result, may provide more ecological refuges and recreational opportunities than other waters in the same ecoregion with similar chemistry and physical conditions.

(B) All waterbodies designated with the limitation indicated by the letters "HQW" in Appendix A are prohibited from having any new point source discharge(s) of any pollutant or increased load or concentration of specified pollutants from existing point source discharge(s), provided however that new point source discharge(s) or increased load of specified pollutants described in OAC 252:730-5-25(b) may be approved by the permitting authority in those circumstances where the discharger demonstrates to the satisfaction of the permitting authority that a new point source discharge or increased load from an existing point source discharge will result in maintaining or improving the level of water quality which exceeds that necessary to support recreation and propagation of fishes, shellfishes, and wildlife of the direct receiving water and downstream waterbodies

designated HQW. As specified in OAC 252:730-3-2(b) and (d), no discharge of any pollutant to a water designated HQW may lower existing water quality.

(C) Waters designated HQW after July 1, 2007 will demonstrate (1) 95% of water quality measurements for multiple parameters from metals, organics, and general physicochemical water quality descriptors better than the promulgated criteria in Appendix G of this ~~chapter~~ Chapter at multiple stations on the segment, (2) an unimpaired biological community as determined by the application of Appendix C of Title 252 Chapter 740, and (3) significant local support for promulgation of the HQW designation.

(4) **Sensitive Public and Private Water Supplies (SWS).**

(A) Waters designated "SWS" are those waters of the state which constitute sensitive public and private water supplies as a result of their unique physical conditions and are listed in Appendix A of this Chapter as "SWS" waters. These are waters (a) currently used as water supply reservoirs, (b) that generally possess a watershed of less than approximately 100 square miles, or (c) as otherwise designated by DEQ.

(B) New point source discharges of any pollutant after June 11, 1989, and increased load of any specified pollutant from any point source discharge existing as of June 11, 1989, shall be prohibited in any waterbody or watershed designated in Appendix A of this Chapter with the limitation "SWS". Any discharge of any pollutant to a waterbody designated "SWS" which would, if it occurred, lower existing water quality shall be prohibited, provided however that new point source discharge(s) or increased load of specified pollutants described in OAC 252:730-5-25(b) may be approved by the permitting authority in those circumstances where the discharger demonstrates to the satisfaction of the permitting authority that a new point source discharge or increased load from an existing point source discharge will result in maintaining or improving the water quality of both the direct receiving water and any downstream waterbodies designated SWS.

(5) **Prioritization of limitations.** In situations where more than one beneficial use limitation exists for a waterbody, the more stringent limitation shall apply.

(6) **Non-Point source discharges or runoff.** Best management practices for control of non-point source discharges or runoff should be implemented in watersheds of waterbodies designated "ORW," "HQW," "SWS," or "SWS-R" in Appendix A of this Chapter and/or located within areas listed in Appendix B provided however that development of conservation plans shall be required in sub-watersheds where discharges or runoff from non-point sources are identified as causing, or significantly contributing to, degradation in a waterbody designated "ORW".

(7) **Culturally Significant Waters (CSW).**

(A) Waters designated as CSW in Appendix A of this Chapter are those identified by recognized tribal authorities as critical to maintaining the waters' utility for cultural, historic, recreational, or ceremonial uses and which may require more stringent protection measures to protect human health or aquatic life or both.

(B) All activities associated with a CSW may require consultation with the duly authorized Tribal authority to assure that the proposed activity is consistent with applicable tribal environmental laws.

(8) **Sensitive Public and Private Water Supplies with Reuse (SWS-R).**

(A) Waters designated "SWS-R" are those waters of the state which constitute sensitive public and private water supplies that may be augmented with reclaimed municipal water for the purpose of indirect potable reuse (IPR). SWS-R waterbodies are identified in Appendix A of this Chapter. These are waters currently used as water supply reservoirs, that generally possess a watershed of less than approximately 100 square miles, or as otherwise designated by DEQ.

(B) New point source discharges of any pollutant after June 11, 1989, and increased load of any specified pollutant from any point source discharge existing as of June 11, 1989, shall be prohibited in any waterbody or watershed designated in Appendix A of this Chapter with the limitation "SWS-R" except as outlined in 8(C) below.

(C) New point source municipal wastewater discharges or increased loading from existing point source municipal wastewater discharges to a SWS-R waterbody or watershed shall achieve a minimum level of effluent quality that is attainable using demonstrated treatment technologies or other alternatives. Approaches for required technology-based limitations and/or other alternatives are outlined in OAC 252:740-13-4(e). A discharge to a SWS-R waterbody may be permitted provided:

(i) A determination of the waterbody's assimilative capacity for all applicable narrative and numeric criteria shall be the responsibility of the discharger;

(ii) If assimilative capacity exists for any applicable narrative or numeric criteria, the discharger shall document what portion, if any, of the assimilative capacity is reasonable to maintain. If it is proposed that it is not reasonable to maintain any, or a portion, of the assimilative capacity, a report consistent with all 40 CFR 131.12(a)(2) requirements describing the available assimilative capacity and providing justification for consuming all or a portion of the assimilative capacity shall be submitted by the discharger to DEQ for review;

(iii) DEQ may approve both the determination of assimilative capacity and the proposed consumption of any, or all, of the assimilative capacity if it is found to be necessary based on the aforementioned report and consistent with the requirements described in 40 ~~C.F.R.~~ CFR § 131.12(a)(2);

(iv) All existing and designated beneficial uses of the receiving waterbody and downstream waterbodies shall be maintained, and the discharge shall not impair human health even during drought of record conditions.

(D) SWS-R waterbodies, with permitted discharge, shall be technically evaluated by permitted parties at least once every five years to determine the attainment or nonattainment of beneficial uses. Technical evaluation reports, including all data and information necessary to allow independent analysis, shall be submitted to the permitting authority for review. If the report documents nonattainment of a beneficial use(s) resulting from the discharge, the permitting authority shall consider actions including, but not limited to, additional permit requirements, cessation of the discharge, and or a recommendation to DEQ to revoke the SWS-R waterbody classification.

252:730-5-26. Mixing zones and zones of passage

(a) **Mixing zones.**

(1) In streams, the chronic regulatory mixing zone extends downstream a distance equivalent to thirteen (13) times the width of the water within the receiving stream at the point of effluent discharge and encompasses 25% of the total stream flow of the ~~7Q2~~ regulatory low flow or 1 cfs, whichever is larger, immediately downstream of the point of effluent discharge.

(2) The acute regulatory mixing zone is encompassed by the R = 0.01 (cfs-1) isopleth. R is the ratio of concentration to wasteload.

(3) Acute toxicity within the mixing zone is prohibited.

(4) Mixing zones in lakes shall be designated on a case-by-case basis.

(5) The water quality in a portion of the mixing zone may be unsuitable for certain beneficial uses.

(6) Where overlapping mixing zones occur because of multiple outfalls, the total length of the chronic regulatory mixing zone will extend thirteen (13) stream widths downstream from the downstream discharge point.

(b) **Zones of passage.**

(1) All discharges permitted for any criteria listed for protection of fish and wildlife propagation shall be regulated to ensure that a zone of passage shall be maintained within the stream at the outfall and adjacent to the mixing zone that shall be no less than seventy-five percent (75%) of the volume of flow.

(2) Water quality standards shall be maintained throughout the zone of passage.

(3) Zones of passage in lakes shall be designated on a case-by-case basis.

SUBCHAPTER 7. GROUNDWATER QUALITY STANDARDS

252:730-7-3. Groundwater classifications, beneficial uses and vulnerability levels

(a) **Classifications.** Classification of all groundwater shall be designated as follows:

(1) **(Class I): RESERVED**

(2) **General Use Groundwater (Class II):** These are groundwaters which have good quality due to natural conditions and generally have a mean concentration of total dissolved solids of less than 3,000 ~~milligrams per liter.~~ mg/L.

(3) **Limited Use Groundwater (Class III):** These are groundwaters which have poor quality due to natural conditions and generally have a mean concentration of total dissolved solids of greater than or equal to ~~3000 milligrams per liter~~ 3,000 mg/L but less than ~~5000 milligrams per liter.~~5,000 mg/L.

(4) **Highly Mineralized Treatable Groundwater (Class IV):** These are groundwaters which have very poor quality due to natural conditions and generally have a mean concentration of total dissolved solids of greater than or equal to ~~5000 milligrams per liter~~ 5,000 mg/L but less than 10,000 ~~milligrams per liter.~~ mg/L.

(b) **Beneficial uses.** This subsection lists the various beneficial uses of groundwater and designates certain beneficial uses for certain classifications of groundwater.

(1) **List of beneficial uses for groundwater.**

(A) **Public Water Supply.** The beneficial use designation of Public Water Supply refers to those groundwaters capable of delivering suitable quantities of groundwater for municipal consumption whether or not treatment is required.

(B) **Domestic Untreated Water Supply.** The beneficial use designation of Domestic Untreated Water Supply refers to those groundwaters capable of delivering suitable quantities of untreated groundwater for domestic consumption.

(C) **Agriculture.** The beneficial use designation of Agriculture refers to that groundwater which is or could be used for irrigation or livestock watering.

(D) **Industrial and Municipal Process and Cooling Water.** The beneficial use designation of Industrial and Municipal Process and Cooling Water refers to that groundwater that is or could be used for a municipal or industrial process or cooling function.

(2) **Beneficial use designations.**

(A) The beneficial uses for General Use Groundwater (Class II), not identified in Appendix H of this Chapter, shall be Domestic Untreated Water Supply, Public Water Supply, Agriculture, and Industrial and Municipal Process and Cooling Water.
(B) The beneficial uses for Limited Use Groundwater (Class III) and Highly Mineralized Treatable Groundwater (Class IV), not identified in Appendix H of this Chapter, shall be Agriculture and Industrial and Municipal Process and Cooling Water.
(C) The beneficial uses for any groundwater identified in Appendix H of this Chapter shall be as designated in that appendix.
(D) The beneficial use for groundwater which is used for water supply purposes on or after July 1, 2000, has a mean concentration of total dissolved solids of less than 5,000 ~~milligrams per liter~~ mg/L, and has not been determined by any state environmental agency to be not suitable for human consumption, shall be Public Water Supply and or Domestic Untreated Water Supply.
(E) A beneficial use designation for groundwater may be amended or removed only after a demonstration to the satisfaction of the Board that meets one of the following tests:
(i) The designated use does not exist due to a condition that was not caused by humans, and treatment using Best Available Technology will not achieve the designated use, or
(ii) The designated use does not exist due to a condition that is attributable to irreversible impacts caused by humans, and the remedy would cause substantial and widespread economic and social impact.
(F) Groundwater which has had a beneficial use designation amended or removed pursuant to (E) of this paragraph shall be identified in Appendix H of this Chapter.

(c) **Vulnerability level.** Groundwater in certain hydrogeologic basins is further classified according to its vulnerability to contamination as determined by DRASTIC. Such vulnerability levels of hydrogeologic basins shall be identified as Very Low, Low, Moderate, High, and Very High as prescribed in Table 1 of Appendix D of this Chapter. The vulnerability level may vary within each hydrogeologic basin, depending on site-specific hydrogeologic factors.
(d) **Nutrient-vulnerable groundwater.** Certain specified groundwaters shall be further subject to designation in Table 2 of Appendix D of this Chapter as nutrient-vulnerable groundwater.

252:730-7-4. Criteria for groundwater quality protection

(a) Groundwaters of the state support many different beneficial uses. The criteria below do not require improvement over naturally occurring background concentrations. When naturally occurring background concentrations exceed the criterion for a given parameter, the naturally occurring background concentration may be utilized as a criterion, if suitable. If a given parameter has more than one criterion associated with it, the most stringent criteria shall apply to ensure beneficial use protection.
(b) The following criteria apply to all groundwaters for the protection of beneficial uses except those groundwaters specifically referenced in OAC 252:730-7-4(c).
(1) The groundwaters of the state shall be maintained to prevent alteration of their chemical properties by harmful substances not naturally found in groundwater.
(2) Protective measures adequate to preserve and protect background quality of the groundwater and existing and designated groundwater basin classifications shall be maintained at all times.
(3) Protective measures shall also be sufficient to minimize the impact of pollutants on groundwater quality.
(4) The concentration of any synthetic substance or any substance not naturally occurring in that location shall not exceed the PQL in an unpolluted groundwater sample using laboratory technology. If the concentration found in the test sample exceeds the PQL, or if other substances in the groundwater are found in concentrations greater than those found in background conditions, that groundwater shall be deemed to be polluted and corrective action may be required.
(c) For artificial aquifer recharge and/or aquifer storage and recovery activities, the criteria below and presented in Tables 1 and 2 of Appendix I shall apply to ensure the protection of beneficial uses, as specified. Artificial recharge and/or aquifer storage and recovery activities shall not cause or contribute to a condition of pollution or nuisance or result in nonattainment of any applicable groundwater quality standard.
(1) **Chemical Constituents.** Groundwaters shall not contain chemical constituents in concentrations that adversely affect any beneficial use. At a minimum, groundwaters with the designated beneficial uses of public water supply and domestic untreated water supply shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels specified in the following provisions:
(A) Organic Contaminants in 40 CFR 141.61(a)
(B) Synthetic Organic Contaminants in 40 CFR 141.61(c)
(C) Inorganic Contaminants in 40 CFR 141.62(b)
(D) Disinfection Byproducts in 40 CFR 141.64
(E) Disinfectants in 40 CFR 141.65(a)
(2) **Toxicity.** Groundwaters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with any beneficial use(s). This criterion applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances or the mobilization and/or transformation of a substance due to changes in physiochemical properties within the aquifer. At a

APPENDIX A. DESIGNATED BENEFICIAL USES OF SURFACE WATERS

(a) **Introduction.** The Tables in the following Appendices A.1 through A.7 identify certain waterbodies throughout the state of Oklahoma and designate beneficial uses for those waterbodies. The waterbodies are identified by their name (e.g., "Horse Creek") or other description (e.g., "Tributary of Lebos Creek at Sec. 2, T2N, R26W, IM", "Red River from the Arkansas State Line to the Kiamichi River") and a Waterbody ID Number. The Waterbody ID numbers are used in the State of Oklahoma "Water Quality Assessment Integrated Report" published by the Oklahoma Department of Environmental Quality. The first digit of the Waterbody ID number indicates the basin number; the next three digits indicate the major drainage segment within that basin; the next two digits indicate the subdivision of the major drainage segment, the next two digits indicate a smaller section of that six digit basin, and the last four digits represent a hydrologic sequence of waterbodies, going from the most downstream point in the eight-digit watershed up to the furthest upstream point in the watershed. In some cases, two additional digits are added to indicate further delineations within the waterbody segment. Not all waterbodies have a Waterbody ID number, primarily due to limited resources and need. Where a specific Waterbody ID has not been assigned, the six-digit Water Quality Management Segment is listed until such time as the waterbody is assigned a specific Waterbody ID number. The Tables in Appendices A.1 through A.7 also set forth columns to show the beneficial uses or subcategories of uses which are designated for each identified waterbody.

(b) **Beneficial Use Designations.** Designations of beneficial uses for a waterbody are reflected in the Tables in Appendices A.1 through A.7 by the presence of the following codes or a dot ("•") in the columns to the right of the waterbody name. An empty space in a column means that column's beneficial use or subcategory thereof is not designated for that waterbody.

(1) **EWS** - Emergency Water Supply beneficial use
(2) **PPWS** - Public and Private Water Supply beneficial use
(3) **F&W Prop** - Fish and Wildlife Propagation beneficial use
  (A) **WWAC** - Warm Water Aquatic Community subcategory
  (B) **HLAC** - Habitat Limited Aquatic Community subcategory
  (C) **CWAC** - Cool Water Aquatic Community subcategory
  (D) **Trout** - Trout Fishery (Put and Take) subcategory
(4) **Ag** - Agriculture beneficial use
(5) **Rec** - Recreation beneficial use
  (A) **PBCR** - Primary Body Contact beneficial use
  (B) **SBCR** - Secondary Body Contact beneficial use
(6) **Nav** - Navigation beneficial use
(7) **Aes** - Aesthetics beneficial use

A dot ("•") used in a column indicates that the beneficial use in that column's heading is designated for that waterbody without a more specific subcategory or other designation.

The criteria to protect the beneficial uses are provided in Subchapter 5 and Appendix G of this Chapter.

(c) **Limitations for Additional Protection.**

(1) Limitations for additional protection are described in OAC 252:730-5-25.
(2) Waterbodies that are subject to limitations for additional protection in OAC 252:730-5-25 are identified by the designation of any of the following codes in the "Limitations" column to the right of the waterbody's name:
  (A) "**ORW**" - indicates waters designated Outstanding Resource Waters;
  (B) "**HQW**" - indicates waters designated High Quality Waters; and

(C) **"SWS"** - indicates waters designated Sensitive Public and Private Water Supplies.

(D) **"SWS-R"** means waterbodies classified as sensitive public and private water supplies that may be augmented with reclaimed municipal water for the purpose of indirect potable reuse.

(d) **Remarks used in Appendices A.1 through A.7.** The presence of any of the following footnotes in the "Remarks" column to the right of a waterbody's name denotes special circumstances which are applicable to that waterbody.

(1) A footnote (1) excludes the Scenic River designation from that portion of Lee Creek necessary for a dam to be built in the State of Arkansas with a crest elevation of no more than the 420 foot MSL elevation according to plans, specifications and conditions contained in U.S. Army Corps of Engineer Permit WD-050-03-3541 and in the Federal Energy Regulatory Commission License for Project No. 5251-002, which were approved by the U.S. Environmental Protection Agency. Changes in water quality caused by the impoundment of water by said dam shall not constitute a violation of Oklahoma's Water Quality Standards.

(2) The remark "CSW" designates those waters identified as Culturally Significant Waters.

(3) The remark "NLW" designates a nutrient-limited watershed. Specific delineations of nutrient-limited watersheds are provided in OAC 252:730-5-29.

(4) A footnote (4) designates those streams for which further investigations are pending. Beneficial use designations for those streams are provided in Subchapter 5 of this Chapter.

APPENDIX A.1
Designated Beneficial Uses of Surface Waters
Water Quality Management Basin 1, Middle Arkansas River

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Arkansas River from mouth of Canadian River to the mouth of the Verdigris River including Webbers Falls Reservoir	120400010260, 120400010010, 120400010070, 121500010005	EWS	WWAC	•	PBCR	•	•		
Dirty Creek	120400020010	PPWS	WWAC	•	PBCR		•		
Tributary of Dirty Creek at SW 1/4, Sec. 31, T12N, R21E, IM	120400020015_00		HLAC	•	SBCR		•		
South Fork of Dirty Creek	120400020030		WWAC	•	PBCR		•		
East Pourum Creek at NE SE SE, Sec. 2, T10N, R19E, IM	120400020060		HLAC	•	SBCR		•		
Georges Fork	120400020110	EWS	WWAC	•	PBCR		•		
Tributary of Georges Fork at SE 1/4, Sec. 35, T12N, R19E, IM (Howland Creek)	120400020120_00	EWS	HLAC	•	SBCR		•		
Warner (Connors) Lake	120400020140	PPWS	WWAC	•	PBCR		•		
Tributary of Dirty Creek at SE 1/4, Sec. 1, T12N, R18E, IM	120400020250		WWAC	•	PBCR		•		
Lower Illinois River from Arkansas River (OK120400010010_10) to Tenkiller Dam	121700010010	PPWS	Trout	•	PBCR	•	•	HQW	
Upper Illinois River from Tenkiller Dam, including Tenkiller Lake upstream to Barren Fork confluence	121700020300_00, 121700020020, 121700020220	PPWS	CWAC	•	PBCR		•	HQW	NLW
Cato Creek	121700020090	PPWS	WWAC	•	PBCR		•		
Terrapin Creek	121700020130	PPWS	WWAC	•	PBCR		•		
Caney Creek	121700040010,	PPWS	CWAC	•	PBCR		•		
Negro Jake (Hollow) Creek	121700040020		CWAC		PBCR		•		
Park Hill Branch	121700020270		WWAC	•	PBCR		•		
Barren Fork from confluence with Illinois River to Hwy. 59	121700020310, 121700050010, 121700050170_00	PPWS	CWAC	•	PBCR		•	ORW	Scenic River
North Mining Camp (Hollow) Creek	121700050040		CWAC		PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Tyner Creek	121700050090	PPWS	CWAC	•	PBCR		•	ORW	
Dennison Hollow	121700050110	PPWS	CWAC	•	PBCR		•	ORW	
Peacheater Creek	121700050120	PPWS	CWAC	•	PBCR		•	ORW	
Scraper Hollow	121700050130	PPWS	CWAC	•	PBCR		•	ORW	
England Hollow	121700050140	PPWS	CWAC	•	PBCR		•	ORW	
Green Creek	121700050150	PPWS	CWAC	•	PBCR		•	ORW	
Shell Branch	121700050180	PPWS	CWAC	•	PBCR		•	ORW	
(East) Peavine Creek	121700050190		CWAC		PBCR		•		
Barren Fork from Hwy. 59 to Arkansas State Line	121700050170_10	PPWS	CWAC	•	PBCR		•	ORW	
Evansville Creek	121700050200	PPWS	CWAC	•	PBCR		•	ORW	
Upper Illinois River upstream of Barren Fork confluence	121700020300_10, 121700030010, 121700030080, 121700030280, 121700030350	PPWS	CWAC	•	PBCR		•	ORW	Scenic River
Luna (Branch) Creek	121700030260		CWAC		PBCR		•		
Winset Hollow Creek	121700030230	PPWS	WWAC	•	PBCR		•		
Steely Hollow Creek	121700030120		CWAC		PBCR		•		
Tahlequah Creek (Town Branch)	121700030020, 121700030040	PPWS	CWAC	•	PBCR		•	ORW	
Flint Creek	121700030290, 121700060010_00, 121700060010_10	PPWS	CWAC	•	PBCR		•	ORW	Scenic River
Sager Creek	121700060080	PPWS	CWAC	•	PBCR		•	ORW	
Ballard Creek	121700030370	PPWS	CWAC	•	PBCR		•	ORW	
Tributary of Arkansas River at Sec. 7, T12N, R21E, IM	120400010035_00		WWAC	•	PBCR		•		
Greenleaf Creek including Greenleaf Lake and Watershed	120400010110, 120400010120, 120400010130, 120400010140, 120400010150, 120400010160, 120400010170, 120400010180, 120400010190, 120400010200	PPWS	WWAC	•	PBCR		•	SWS	
Star (Oxbow) Lake	120400010230		WWAC	•	PBCR		•		
Sand Creek	120400010240		HLAC	•	SBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Bayou Manard	120400010280	PPWS	WWAC	•	PBCR		•		
Coody Creek	120400010400	PPWS	WWAC	•	PBCR		•		
Grand River Main Stem (Grand Neosho River) from mouth to Kansas State Line, including Lake Hudson and (Grand) Lake O' the Cherokees but excluding Fort Gibson Lake	121600010010, 121600010040, 121600010280, 121600020010, 121600020020, 121600020140, 121600020170, 121600030020, 121600030030, 121600030040, 121600040010, 121600040120, 121600040220	PPWS	WWAC	•	PBCR		•		
Fort Gibson Lake	121600010050, 121600010200	PPWS	WWAC	•	PBCR		•		NLW
Ranger Creek	121600010060	PPWS	WWAC	•	PBCR		•		
Fourteen Mile Creek	121600010100	PPWS	CWAC	•	PBCR		•	HQW	
Black Bird Creek	121600010130	PPWS	CWAC	•	PBCR		•		
Double Springs Creek	121600010090	PPWS	WWAC	•	PBCR		•		
Clear Creek	121600010210	PPWS	CWAC	•	PBCR		•		
Spring Creek	121600010290	PPWS	CWAC	•	PBCR		•	HQW	
Snake Creek	121600010330		CWAC	•	PBCR		•	HQW	
Little Spring Creek	121600010340	PPWS	CWAC	•	PBCR		•	HQW	
Double Spring Creek	121600010390	PPWS	CWAC	•	PBCR		•		
Chouteau Creek	121600010430	PPWS	WWAC	•	PBCR		•		
Tributary of Chouteau Creek at SE 1/4, Sec.13, T20N, R18E, IM	121600010435_00		WWAC	•	SBCR		•		
Tributary of Chouteau Creek at SE 1/4, Sec. 29, T20N, R19E, IM	121600010432_00		HLAC	•	SBCR		•		
Pryor Creek downstream from the road crossing in Sec. 30, T21N, R19E, IM	121610000010, 121610000050_00		WWAC	•	PBCR		•		
Pryor Creek upstream from the road crossing in Sec. 30, T21N, R19E, IM to the road crossing in Sec. 12, T21N, R18E, IM	121610000050_10	PPWS	WWAC	•	PBCR		•		
Pryor Creek upstream from the road crossing in Sec. 12, T21N, R18E, IM	121610000090_00, 121610000090_10		WWAC	•	SBCR		•		
Crutchfield Branch	121600010440		WWAC	•	PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
W.R. Holway Reservoir	121600020050	PPWS	WWAC	•	PBCR		•		
Saline Creek	121600020030	PPWS	CWAC	•	PBCR		•	HQW	
Little Saline Creek	121600020070	PPWS	CWAC	•	PBCR		•	HQW	
Horse Creek	121600030160	EWS	WWAC	•	PBCR		•		
Little Horse Creek	121600030190		WWAC		PBCR		•		
Spavinaw Creek below Spavinaw Lake dam	121600020150_00	PPWS	CWAC	•	PBCR		•		
Spavinaw Lake and watershed upstream of Spavinaw Lake dam	121600050020, 121600050030, 121600050040, 121600050050, 121600050060,	PPWS	CWAC	•	PBCR		•	SWS	NLW
Eucha Lake and watershed	121600050060, 121600050070, 121600050080, 121600050090, 121600050100, 121600050110, 121600050120, 121600050130, 121600050150, 121600050170, 121600050180, 121600050190, 121600050200, 121600050210, 121600050220	PPWS	CWAC	•	PBCR		•	SWS	NLW
Brush Creek	121600050140	PPWS	CWAC	•	PBCR		•	HQW	
Beaty Creek	121600050160	PPWS	CWAC	•	PBCR		•	HQW	
Rock Creek	121600020180	PPWS	WWAC	•	PBCR		•		
Big Cabin Creek downstream from the road crossing in Sec. 10, T24N, R20E, IM	121600020190, 121600060010, 121600060060_00	PPWS	WWAC	•	PBCR		•		
Mustang Creek	121600060040		WWAC	•	PBCR		•		
Big Cabin Creek upstream from the road crossing in Sec. 10, T24N, R20E, IM to the road crossing in Sec. 8, T26N, R20E, IM	121600060060_10, 121600060220, 121600060300_00		WWAC	•	SBCR		•		
Little Cabin Creek	121600060080		WWAC	•	PBCR		•		
Bull Creek	121600060200		WWAC		PBCR		•		
Big Cabin Creek upstream from the road crossing in Sec. 8, T26N, R20E, IM	121600060300_10		WWAC	•	PBCR		•		
Drowning Creek	121600030090	PPWS	CWAC	•	PBCR		•		

Tributary of Muskrat Creek (Hollow) in Sec.36, T23N, R23E, IM (Jay Creek)	121600030120_00		HLAC	●	SBCR		●		
Honey Creek	121600030445	PPWS	CWAC	●	PBCR		●	HQW	
Elm Creek	121600030310	PPWS	CWAC	●	PBCR		●		
Whitewater Creek	121600030320	PPWS	CWAC	●	PBCR		●		
Cave Springs Branch	121600030340	PPWS	CWAC	●	PBCR		●	HQW	
Elk River	121600030440	PPWS	CWAC	●	PBCR		●		
(Council) Hollow Creek	121600030490	PPWS	CWAC	●	PBCR		●		
Sycamore Creek	121600030510	PPWS	CWAC	●	PBCR		●		
Brush Creek	121600030520	PPWS	CWAC	●	PBCR		●		
Lost Creek	121600030560	PPWS	CWAC	●	PBCR		●		
Spring River	121600070010	PPWS	CWAC	●	PBCR		●		
Shawnee Branch	121600070020	PPWS	CWAC	●	PBCR		●		
Flint Branch	121600070040	PPWS	CWAC	●	PBCR		●		
Warren Branch	121600070050	PPWS	CWAC	●	PBCR		●	HQW	
Devil's Hollow	121600070070	PPWS	CWAC	●	PBCR		●		
Five Mile Creek	121600070110	PPWS	CWAC	●	PBCR		●		
Hudson Creek	121600040040		WWAC	●	PBCR		●		
Tributary of Hudson Creek at SE 1/4, Sec. 30, T27N, R23E, IM	121600040043_00		HLAC	●	SBCR		●		
Tar Creek	121600040060		HLAC		SBCR				
Verdigris River from confluence with Arkansas River to Oologah Lake Dam	121500010010, 121500010060, 121500010200, 121500020010, 121500020120, 121500020260, 121500030010_00, 121500030010_10	PPWS	WWAC	●	PBCR	●	●		
Tributary of Verdigris River at SW 1/4, Sec. 20, T16N, R19E, IM (Okay Creek)	121500010280		HLAC	●	SBCR		●		
Coal Creek (near Wagoner)	121500010100	PPWS	WWAC	●	PBCR		●		
Tributary of Verdigris River at SE 1/4, Sec. 34, T17N, R17E, IM (Strawberry Creek)	121500010170		HLAC	●	SBCR		●		
Coal Creek	121500010270	PPWS	WWAC	●	PBCR		●		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Inola Creek	121500020110		WWAC	•	PBCR		•		
Pea Creek	121500020100		WWAC	•	PBCR		•		
Adams Creek	121500020150	PPWS	WWAC	•	PBCR		•		
Salt Creek	121500020270		WWAC	•	SBCR		•		
Tributary of Salt Creek at NW 1/4, Sec. 1, T19N, R15E, IM	121500020275_00		HLAC	•	SBCR		•		
Dog Creek downstream from Lake Claremore	121500020360, 121500040010	PPWS	WWAC	•	PBCR		•		
Cat Creek	121500020390	EWS	WWAC	•	PBCR		•		
Tributary of Cat Creek at NW 1/4, Sec. 21, T21N, R16E, IM	121500	EWS	HLAC	•	SBCR		•		
Lake Claremore and Watershed	121500040010, 121500040020, 121500040030	PPWS	WWAC	•	PBCR		•	SWS	NLW
Chambers Creek	121500	EWS	HLAC	•	SBCR		•		
Mossy Creek	121500020430	EWS	HLAC	•	SBCR		•		
Spunky Creek	121500020480, 121500020470		WWAC	•	PBCR		•		
Tributary of Spunky Creek at Sec. 6, T19N, R15E, IM	121500020500_00		HLAC	•	SBCR		•		
Tributary of Verdigris River at Sec. 28, T20N, R15E, IM	121500020465_00		HLAC	•	SBCR		•		
Bird Creek	121300010010, 121300020010. 121300030010	PPWS	WWAC	•	PBCR		•		
Mingo Creek	121300010030	EWS	WWAC	•	PBCR		•		
Unnamed tributary of Mingo Creek	121300010035_00	EWS	HLAC	•	SBCR		•		
Elm Creek	121300010020		WWAC		PBCR		•		
Owasso Creek	121300010055_00		HLAC	•	SBCR		•		
Tributary of Owasso Creek at SE1/4, Sec. 31, T21N, R14E, IM	121300010057_00		HLAC	•	SBCR		•		
Ranch Creek	121300010060		WWAC		PBCR		•		
Lake Yahola and Watershed	121300010130	PPWS	WWAC	•	PBCR		•	SWS	
Flat Rock Creek	121300010120		WWAC	•	SBCR		•		
Tributary of Flat Rock Creek at SE 1/4, Sec. 18, T20N, R13E, IM (Dirty Butter Creek)	121300010140		HLAC	•	SBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Delaware Creek	121300010150	PPWS	WWAC	•	PBCR		•		
Hominy Creek downstream from Skiatook Lake	121300040010, 121300040070	PPWS	WWAC	•	PBCR		•		
Hominy Creek upstream from and including Skiatook Lake	121300040070, 121300040080, 121300040280	PPWS	WWAC	•	PBCR		•	SWS	
Claremore Creek	121300040320	PPWS	WWAC	•	PBCR		•		
Hominy Municipal Lake and Watershed	121300040320, 121300040330	PPWS	WWAC	•	PBCR		•	SWS	
Candy Creek	121300020080	PPWS	WWAC	•	PBCR		•		
Pecan Hollow Creek	121300020090	PPWS	WWAC	•	PBCR		•	SWS	
Avant Public Utility Lake	121300020100	PPWS	WWAC	•	PBCR		•		
Waxoma Lake	121300020190	PPWS	WWAC	•	PBCR		•		
Tributary of Bird Creek at Sec. 19, T24N, R11E, IM	121300030070_00		HLAC	•	SBCR		•		
Birch Creek downstream from Birch Reservoir	121300030020	PPWS	WWAC	•	PBCR		•		
Birch Reservoir and Watershed	121300030020, 121300030030, 121300030040, 121300030050	PPWS	WWAC	•	PBCR		•	SWS	
Tributary of Birch Creek at Sec. 14, T24N, R9E, IM	121300030055_00		HLAC	•	SBCR		•	SWS	
Clear Creek	121300030200	PPWS	WWAC	•	PBCR		•		
Pawhuska Lake	121300030230	PPWS	WWAC	•	PBCR		•		
Bluestem Lake and Watershed	121300030280, 121300030290, 121300030300, 121300030310	PPWS	WWAC	•	PBCR		•	SWS	
Tributary of Verdigris River at Sec. 11, T21N, R15E, IM (Keetonville Creek)	121500030050		HLAC	•	SBCR		•		
Caney River from the mouth to the Kansas State Line	121400010010, 121400020010, 121400030010	PPWS	WWAC	•	PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Hulah Lake and watershed	121400030010, 121400030020, 121400030030, 121400030040, 121400030050, 121400030060, 121400030080, 121400030090, 121400030100, 121400030110, 121400030120, 121400030130, 121400030140, 121400030150, 121400030160, 121400030170, 121400030180, 121400030190, 121400030200	PPWS	WWAC	•	PBCR		•		NLW
Rabb Creek	121400010090	PPWS	WWAC	•	PBCR		•		
Nellie Bly Creek	121400010180	PPWS	WWAC	•	PBCR		•		
Hogshooter Creek	121400010300		WWAC		PBCR		•		
Keeler Creek	121400010320		WWAC	•	PBCR		•		
Tributary of Keeler Creek at NW 1/4 Sec. 19, T25N, R13E, IM (East Keeler Creek)	121400010322		HLAC	•	SBCR		•		
Sand Creek	121400040010	PPWS	WWAC	•	PBCR		•		
Buck Creek	121400040050	PPWS	WWAC	•	PBCR		•		
Coon Creek	121400020040	PPWS	WWAC	•	PBCR		•		
Deer Creek	121400020050		WWAC	•	PBCR		•		
Lake Hudson on Butler Creek	121400020090	PPWS	WWAC	•	PBCR		•		
Little Caney River including Copan Lake and Watershed	121400020140, 121400050010, 121400050020, 121400050030, 121400050040, 121400050050, 121400050060, 121400050070, 121400050080	PPWS	WWAC	•	PBCR		•	SWS	
Pond Creek	121400030090	PPWS	WWAC	•	PBCR		•		
Buck Creek	121400030170	PPWS	WWAC	•	PBCR		•		
Fourmile Creek	121500030070		WWAC	•	PBCR		•		
Verdigris River from and including Oologah Lake to the Kansas State Line	121510010010, 121510010020, 121510020010	PPWS	WWAC	•	PBCR	•	•		
Blue Creek	121510010030	PPWS	WWAC	•	PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Spencer Creek including Chelsea Reservoir and Watershed	121510010040, 121510010060	PPWS	WWAC	•	PBCR		•	SWS	
Lightning Creek	121510010130	PPWS	WWAC	•	PBCR		•		
Salt Creek	121510010190	PPWS	WWAC	•	PBCR		•		
Big Creek	121510030010	PPWS	WWAC	•	PBCR		•		
California Creek	121510020050	PPWS	WWAC	•	PBCR		•		
Tributary to Oologah Lake NW 1/4, Sec. 5, T26N, R16E, IM (Delaware Creek)	121510020060	EWS	HLAC	•	SBCR		•		
Snow Creek	121510020250	PPWS	WWAC	•	PBCR		•		
Onion Creek	121510020340	PPWS	WWAC	•	PBCR		•		
Arkansas River from mouth of Verdigris River to Keystone Dam	120410010010, 120410010080_00, 120410010080_10, 120420010010_00, 120420010010_10, 120420010130	EWS	WWAC	•	PBCR	•	•		
Pecan Creek	120410010030	PPWS	WWAC	•	PBCR		•		
Cloud Creek	120410010100, 120410020010	PPWS	WWAC	•	PBCR		•		
Ash Creek	120410010110	PPWS	WWAC	•	PBCR		•		
Mountain Creek including Bixhoma Lake	120410010180	PPWS	WWAC	•	PBCR		•		
Snake Creek	120410010220	PPWS	WWAC	•	PBCR		•		
Rock Creek	120410030020	PPWS	WWAC	•	PBCR		•		
Lake Boren	120410030080	PPWS	WWAC	•	PBCR		•		
Posey Creek	120420010030		WWAC	•	PBCR		•		
Polecat Creek downstream from Heyburn Lake	120420020050_00, 120420020050_10, 120420020290		WWAC	•	PBCR		•		
Coal Creek downstream from Sec. 35, T18N, R12E, IM	120420020030_00	PPWS	WWAC	•	PBCR		•		
Coal Creek upstream from Sec. 35, T18N, R12E, IM	120420020030_10	PPWS	HLAC	•	PBCR		•		
Rock Creek downstream from Sahoma Lake	120420020060, 120420020120		WWAC	•	PBCR		•		
Country Club Lake (Middle Lake)	120420020090	PPWS	WWAC	•	PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Sapulpa Lake	120420020110	PPWS	WWAC	•	PBCR		•		
Childress Creek	120420020160		HLAC	•	SBCR		•		
Jackson Creek	120420020200	PPWS	WWAC	•	PBCR		•		
Little Polecat Creek	120420020260		WWAC	•	SBCR		•		
Sahoma Lake and Watershed	120420020120, 120420020130, 120420020140	PPWS	WWAC	•	PBCR		•	SWS	
Heyburn Lake and Watershed	120420020290, 120420020300, 120420020310, 120420020320, 120420020330, 120420020340, 120420020350, 120420020360, 120420020370, 120420020380, 120420020390, 120420020400, 120420020410	PPWS	WWAC	•	PBCR		•	SWS	
Shell Creek downstream from Shell Lake	120420010230	PPWS	WWAC	•	PBCR		•		
Shell (Creek) Lake and Watershed	120420010230, 120420010240 120420010250, 120420010260, 120420010270	PPWS	WWAC	•	PBCR		•	SWS	

APPENDIX A.2

Designated Beneficial Uses of Surface Waters
Water Quality Management Basin 2, Lower Arkansas River Basin

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Arkansas River from the Arkansas State Line to the mouth of the Canadian River including R.S. Kerr Reservoir	220200010010, 220200020010, 220200020020	PPWS	WWAC	•	PBCR	•	•		
Lee Creek downstream from the 420 ft. elevation level	220200050010_00	PPWS	CWAC	•	PBCR		•	HQW	HQW
Lee Creek upstream from the 420 ft. elevation level	220200050010_10	PPWS	CWAC	•	PBCR		•	ORW	Scenic River(1)
Webber(s) Creek	220200050020	PPWS	CWAC	•	PBCR		•	ORW	
Briar Creek (Bear Creek)	220200050030	PPWS	CWAC	•	PBCR		•	ORW	
Little Lee Creek	220200050040	PPWS	CWAC	•	PBCR		•	ORW	Scenic River
Jenkins Creek	220200050050	PPWS	CWAC	•	PBCR		•	ORW	
Poteau River downstream from Brazil Creek	220100010010	PPWS	WWAC	•	PBCR		•		
Tributary of Cedar Creek at Sec. 8, T9N, R27E, IM	220100010030		WWAC	•	PBCR		•		
Hoil-Tuska Creek including New Spiro Lake	220100010050	PPWS	WWAC	•	PBCR		•	SWS	NLW
James Fork	220100010070	PPWS	WWAC	•	PBCR		•		
Brazil Creek	220100030010	PPWS	WWAC	•	PBCR		•		
Red Oak Pit	220100	PPWS	WWAC	•	PBCR		•		
Poteau River upstream from Brazil Creek	220100010010, 220100020010_10	PPWS	WWAC	•	PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Wister Lake and watershed	2201000200 10, 2201000200 20, 2201000200 30, 2201000200 40, 2201000200 50, 2201000200 70, 2201000200 80, 2201000200 90, 2201000201 00, 2201000201 10, 2201000400 10, 2201000400 20, 2201000400 30, 2201000400 40, 2201000400 50, 2201000400 60, 2201000400 70, 2201000400 80, 2201000400 90, 2201000401 10, 2201000401 20, 2201000401 60, 2201000401 70, 2201000401 80	PPWS	WWAC	•	PBCR		•		NLW
Riddle Creek	2201000101 20		HLAC	•	SBCR		•		
Tributary of Riddle Creek at SE 1/4 Sec. 4, T07N, R26E, IM (Cameron Creek)	2201000101 30		HLAC	•	SBCR		•		
Sugarloaf Creek	2201000101 60	PPWS	WWAC	•	PBCR		•		
Morris Creek	2201000101 70		WWAC	•	PBCR		•		
Caston Creek	2201000101 80	PPWS	WWAC	•	PBCR		•		
Coal Creek	2201000102 00	EWS	WWAC	•	PBCR		•		
Fourche Maline Creek including Lake Wayne Wallace	2201000400 10, 2201000400 20, 2201000401 50	PPWS	WWAC	•	PBCR		•		
Little Fourche Maline Creek	2201000400 70	PPWS	WWAC	•	PBCR		•		
Red Oak Creek	2201000400 50		WWAC		PBCR		•		
Bandy Creek	2201000400 80		WWAC	•	PBCR		•		
Tributary of Bandy Creek at NE 1/4, Sec. 17, T5N, R19E, IM	220100		WWAC	•	SBCR		•		
Lloyd Church Lake and Watershed	2201000400 90, 2201000401 00	PPWS	WWAC	•	PBCR		•	SWS	
Tributary to Bandy Creek (Cunneo Bandy)	2201000400 90	PPWS	WWAC	•	PCBR		•		
Tributary of Fourche Maline Creek at SE 1/4, Sec. 12, T5N, R19E, IM	2201000401 10		HLAC	•	SBCR		•		
Coon Creek Lake and Watershed	2201000401 20, 2201000401 30	PPWS	WWAC	•	PBCR		•	SWS	

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Lake Wayne Wallace	220100040150	PPWS	WWAC	•	PBCR		•		
Black Fork downstream from Cedar Creek	220100020030, 220100020040	PPWS	WWAC	•	PBCR		•		
Black Fork upstream from Cedar Creek	220100020040	PPWS	CWAC	•	PBCR		•	HQW	
Cedar Creek including Cedar Lake	220100020050, 220100020060	PPWS	WWAC	•	PBCR		•		
Shawnee Creek	220100020070	PPWS	WWAC	•	PBCR		•		
Big Creek	220100020080	PPWS	CWAC	•	PBCR		•		
Tributary of Big Creek at NE 1/4, Sec. 22, T3N, R26E, IM	220100020090	EWS	WWAC	•	PBCR		•		
Oil Branch	220100020100		WWAC	•	PBCR		•		
Garrison Creek	220200050060	PPWS	WWAC	•	PBCR		•		
Unnamed tributary of Garrison Creek at Sec. 18, T11N, R27E, IM	220200050070_00		HLAC		SBCR		•		
Camp Creek	220200010020	PPWS	CWAC	•	PBCR		•		
Big Skin Bayou Creek	220200010030	PPWS	WWAC	•	PBCR		•		
Muldrow City Lake	220200010025_00	PPWS	WWAC	•	PBCR		•		
Cache Creek	220200010060	PPWS	WWAC	•	PBCR		•		
Onion Creek	220200010100		HLAC	•	SBCR		•		
Sans Bois Creek	220200040010	PPWS	WWAC	•	PBCR		•		
Lake John Wells and Watershed	220200040030	PPWS	WWAC	•	PBCR		•	SWS	
Beaver Creek	220200040060	EWS	WWAC	•	PBCR		•		
Sallisaw Creek downstream from U.S. Hwy. 64	220200030010_10	PPWS	CWAC	•	PBCR		•		
Shilo(h) Branch	220200030020		WWAC	•	PBCR		•		
Tributary of Shilo Branch at SW 1/4, Sec. 1, T11N, R23E, IM	220200030035_00		HLAC	•	SBCR		•		
Little Sallisaw Creek (Cedar Creek)	220200020040	PPWS	WWAC	•	PBCR		•		
Sallisaw Creek upstream from U.S. Hwy 64	220200030010_10, 220200030010_20, 220200030010_30	PPWS	CWAC	•	PBCR		•	HQW	
Stillwell City Lake	220200030120	PPWS	WWAC	•	PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Brushy Creek downstream from Brushy (Creek) Reservoir	220200030030	PPWS	CWAC	•	PBCR		•		
Brushy (Creek) Reservoir and Watershed	220200030030, 220200030040, 220200030050	PPWS	CWAC	•	PBCR		•	SWS	
Greasy Creek	220200030080	PPWS	CWAC	•	PBCR		•		
Vian Creek	220200020130	PPWS	CWAC	•	PBCR		•		
Little Vian Creek	220200020140	PPWS	CWAC	•	PBCR		•		
Canadian River from mouth to Eufaula Lake Dam	220300000010	PPWS	WWAC	•	PBCR	•	•		
Taloka Creek	220300000020	PPWS	WWAC	•	PBCR		•		
Snake Creek	220300000030		WWAC	•	SBCR		•		
Emachaya Creek	220300000040	PPWS	WWAC	•	PBCR		•		
Canadian River including Eufaula Lake (excluding the North Canadian River) to its confluence with Little River	220600010020, 220600010050, 220600010060, 220600010119, 220600050010	PPWS	WWAC	•	PBCR		•		
Mud Creek	220600050060	PPWS	WWAC	•	PBCR		•		
Longtown Creek	220600010070	PPWS	WWAC	•	PBCR		•		
Gibson Creek	220600050020		HLAC	•	SBCR		•		
Tributary of Gibson Creek at NW NW Sec. 18, T8N, R16E, IM	220600050023_00		HLAC	•	SBCR		•		
Gaines Creek	220600040010	PPWS	WWAC	•	PBCR		•		
Coal Creek	220600020010	PPWS	WWAC	•	PBCR		•		
Talawanda Lakes #1 and #2	220600020050, 220600020060	PPWS	WWAC	•	PBCR		•		
Lake McAlester and Watershed	220600020020, 220600020030	PPWS	WWAC	•	PBCR		•	SWS	
Deer Creek	220600020080		WWAC	•	PBCR		•		
Sandy Creek	220600020090		WWAC	•	SBCR		•		
Tributary of Sandy Creek at NW 1/4, Sec. 3, T5N, R14E, IM	220600020093_00		WWAC	•	SBCR		•		
Tributary of Coal Creek at SW NW SW Sec. 18, T5N, R12E, IM	220600		HLAC	•	SBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Ash Creek	220600050040	PPWS	WWAC	•	PCBR		•		
Mud Creek	220600050060		WWAC	•	PBCR		•		
Brushy Creek	220600030010	PPWS	WWAC	•	PBCR		•		
Blue Creek	220600030020	PPWS	WWAC	•	PBCR		•		
Peaceable Creek	220600030050	PPWS	WWAC	•	PBCR		•		
Chun Creek upstream from Sec. 15, T4N, R14E, IM	220600030060_10	EWS	WWAC	•	SBCR		•		
Tributary of Chun Creek at SW 1/4, Sec. 16, T4N, R14E, IM	220600030065_00		HLAC	•	SBCR		•		
Chun Creek in and downstream from Sec. 15, T4N, R14E, IM	220600030060_00	EWS	WWAC	•	PBCR		•		
Bull Creek downstream from Brown Lake	220600030080		WWAC	•	PBCR		•		
Brown Lake and Watershed	220600030080, 220600030090	PPWS	WWAC	•	PBCR		•	SWS	
Mill Creek	220600010100_10, 220600010100_20	PPWS	WWAC	•	PCBR		•		
Big Creek	220600010170		WWAC	•	PBCR		•		
Unnamed tributary of Canadian River at SE 1/4, Sec. 22, T6N, R10E, IM	220600010128_00		HLAC	•	SBCR		•		

APPENDIX A.3
Designated Beneficial Uses of Surface Waters
Water Quality Management Basin 3, Upper Red River Basin

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Lake Texoma	311100010020, 311100010030, 311100010080, 310800010011, 310800010050	PPWS	WWAC	•	PBCR		•		
Glasses Creek including Carter Lake	310800010020, 310080010040	PPWS	WWAC	•	PBCR		•		
Tributary at Old Channel Washita, NE 1/4, Sec. 33, T5S, R7E, IM	310800010055_00	EWS	HLAC	•	SBCR		•		
Pennington Creek	310800010120	PPWS	CWAC	•	PBCR		•	HQW	
Spring Creek	310800010160	PPWS	WWAC	•	PBCR		•		
Mill Creek	310800010190	PPWS	WWAC	•	PBCR		•		
Tributary of Three Mile Creek at SW Sec. 7, T2S, R5E, IM to SE Sec. 12, T2S, R4E, IM	310800010205		HLAC	•	SBCR		•		
Washita River from Lake Texoma including Foss Reservoir	310800010010, 310800020010, 310810010010, 310810020010, 310820010010, 310830010010, 310830020010, 310830030010, 310840010010, 310840010020, 310840020010	PPWS	WWAC	•	PBCR		•		
Cool Creek	310800020010	PPWS	WWAC	•	PBCR		•		
Oil Creek	310800010240	PPWS	WWAC	•	PBCR		•		
Caddo Creek	310800030010	PPWS	WWAC	•	PBCR		•		
Sand Creek	310800030020		WWAC	•	PBCR		•		
Unnamed tributary to Caddo Creek	310800030035		HLAC		SBCR				
Ardmore City Lake	310800030070		WWAC	•	PBCR		•		
Rock Creek downstream from Lake Scott King Dam	310800030100	PPWS	WWAC	•	PBCR		•		
Lake Scott King (Rock Creek Reservoir) including Watershed	310800030100, 310800030110, 310800030120	PPWS	WWAC	•	PBCR		•	SWS	

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Lake Jean Neustadt	310800030140	PPWS	WWAC	•	PBCR		•		
Hickory Creek downstream from Mountain Lake	310800030190_00	PPWS	WWAC	•	PBCR		•		
Mountain Lake and Watershed	310800030190, 310800030200, 310800030210	PPWS	WWAC	•	PBCR		•	SWS	
Rock Creek including Lake of the Arbuckles	310800020080, 310800020090, 310800020100, 310800020122	PPWS	WWAC	•	PBCR		•	SWS	
Guy Sandy Creek	310800020130	PPWS	WWAC	•	PBCR		•	HQW	
Falls Creek	310800020140	PPWS	WWAC	•	PBCR		•		
Dry Sandy Creek	310800020150	PPWS	WWAC	•	PBCR		•		
Tributary of Dry Sandy Creek at Sec. 7, T1S, R2E, IM	310800020152_00		HLAC	•	SBCR		•		
Honey Creek	310800020160	PPWS	WWAC	•	PBCR		•	HQW	
Chigley Sandy Creek	310800020190	PPWS	WWAC	•	PBCR		•		
Wildhorse Creek	310810010020, 310810030010, 310810040010, 310810040140	PPWS	WWAC	•	PBCR		•		
Sandy Creek	3108100030020	PPWS	WWAC	•	PBCR		•		
Rock Creek	310810030040	PPWS	WWAC	•	PBCR		•		
Elmore City Lake	310810030060	PPWS	WWAC	•	PBCR		•		
Salt Creek	310810030080	PPWS	WWAC	•	PBCR		•		
Black Bear Creek downstream from Lake Fuqua	310810040030, 310810040040	PPWS	WWAC	•	PBCR		•		
Lake Fuqua and Watershed	310810040030, 310810040040, 310810040050	PPWS	WWAC	•	PBCR		•	SWS	
Duncan Lake and Watershed	310810040070, 310810040080, 310810040090	PPWS	WWAC	•	PBCR		•	SWS	
Clear Creek downstream from Clear Creek Lake	310810040130	PPWS	WWAC	•	PBCR		•		
Clear Creek Lake and Watershed	310810040110, 310810040120, 310810040130	PPWS	WWAC	•	PBCR		•	SWS	
Lake Humphreys and Watershed	310810040140, 310810040150, 310810040160	PPWS	WWAC	•	PBCR		•	SWS	

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Kickapoo Sandy Creek	310810010050	PPWS	WWAC	•	PBCR		•		
Turkey Sandy Creek	310810010060		WWAC	•	PBCR		•		
Tributary of Turkey Sandy Creek at SE 1/4, Sec. 26, T2N, R1E, IM	310810010062_00		WWAC	•	PBCR		•		
W. Sandy Creek (upper) upstream from Sec. 34, T2N, R1E, IM	310810010065_10		HLAC	•	SBCR		•		
W. Sandy Creek (lower) downstream from Sec. 27, T2N, R1E, IM	310810010065_00		WWAC	•	PBCR		•		
Red Branch	310810010070		WWAC	•	SBCR		•		
Rush Creek downstream from U.S. Hwy. 77 near Pauls Valley	310810010090_00		WWAC	•	SBCR		•		
Rush Creek upstream from U.S. Hwy. 77 near Pauls Valley	310810010090_10, 310810050010		WWAC	•	PBCR		•		
Taylor (Marlow) Lake near Rush Springs	310810050060	PPWS	WWAC	•	PBCR		•		NLW
Cherokee Sandy Creek	310810010100	PPWS	WWAC	•	PBCR		•		
R. C. Longmire Lake	310810010186		WWAC	•	PBCR		•		
Peavine Creek	310810010120	PPWS	WWAC	•	PBCR		•		
Washington Creek	310810010170, 310810010190	PPWS	WWAC	•	PBCR		•		
Pauls Valley Lake and Watershed	310810010170, 310810010180, 310810010190	PPWS	WWAC	•	PBCR		•	SWS	
Owl Creek	310810010200		WWAC	•	PBCR		•		
Wiley Post Memorial Lake	310810010220	PPWS	WWAC	•	PBCR		•		
Beef Creek	310810010230	EWS	HLAC	•	SBCR		•		
Tributary of Beef Creek at SE 1/4, Sec.15, T4N, R2W, IM	310810010232_00	EWS	HLAC	•	SBCR		•		
Finn Creek	310810020020	PPWS	WWAC	•	PBCR		•		
Criner Creek	310810020050	PPWS	WWAC	•	PBCR		•		
Colbert Creek	310810020160	PPWS	WWAC	•	PBCR		•		
Roaring Creek	310810020170	PPWS	WWAC	•	PBCR		•		
East Roaring Creek	310810020180		WWAC		PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Laflin Creek	310810020200	PPWS	WWAC	•	PBCR		•		
Winter Creek	310810020220	PPWS	WWAC	•	PBCR		•		
Little Washita River	310820020010	PPWS	WWAC	•	PBCR		•		
Lake Burtschi	310800020070		WWAC	•	PBCR		•		
Gladys Creek downstream from U.S. Hwy. 277	310820020150_00		HLAC	•	SBCR		•		
Gladys Creek upstream from U.S. Hwy. 277	310820020150_10	PPWS	WWAC	•	PBCR		•		
Bitter Creek	310820010030	PPWS	WWAC	•	PBCR		•		
East Fork of Bitter Creek	310820010040	PPWS	WWAC	•	PBCR		•		
West Fork of Bitter Creek	310820010060	PPWS	WWAC	•	PBCR		•		
Tributary of Washita River at NE 1/4, Sec. 35, T7N, R7W, IM	310820		HLAC	•	SBCR		•		
Ionine Creek	310820010160	PPWS	WWAC	•	PBCR		•		
Jack Hollow Creek	310820010170	PPWS	WWAC	•	PBCR		•		
Spring Creek including Lake Chickasha	310830040010, 310830040020	PPWS	WWAC	•	PBCR		•		NLW
Stinking Creek	310830040030	PPWS	WWAC	•	PBCR		•		
Delaware Creek	310830010030		WWAC	•	SBCR		•		
Sugar Creek	310830050010		WWAC	•	SBCR		•		
Tributary of Sugar Creek at NW 1/4, Sec. 29, T11N, R11W, IM	310830		HLAC	•	SBCR		•		
Cobb Creek downstream from Fort Cobb Reservoir	310830060010	PPWS	WWAC	•	PBCR		•		
Fort Cobb Lake and Watershed including Crowder Lake and watershed	310830060010, 310830060020, 310830060030, 310830060040, 310830060050, 310830060060, 310830060070, 310830060080, 310830060090, 310830060100, 310830060110, 310830060120, 310830060130, 310830060140	PPWS	WWAC	•	PBCR		•	SWS	NLW
Lake Creek	310830060040	PPWS	WWAC	•	PBCR		•	SWS	
Stinking Creek	310830020020	PPWS	WWAC	•	PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Rainy Mountain Creek downstream from S.H. 9	31083002006_00		WWAC	•	PBCR		•		
Rainy Mountain Creek upstream from S.H. 9	31083002006_10		WWAC	•	SBCR		•		
Oak Creek	310830020090	PPWS	WWAC	•	PBCR		•		
Lake Vanderwork and watershed	310830020100, 310830020110		WWAC	•	PBCR		•		NLW
Two Baby Creek	310830030060		WWAC	•	PBCR		•		
Cavalry Creek	310830030070	PPWS	WWAC	•	PBCR		•		
South Fork of Cavalry Creek	310830030080		WWAC	•	PBCR		•		
N. Cavalry Creek	310830030090	EWS	HLAC	•	SBCR		•		
Tributary to N. Cavalry Creek at NW 1/4, Sec. 11, T9N, R17W, IM	31083003009 5_00	EWS	HLAC	•	SBCR		•		
Boggy Creek	310830030100		WWAC	•	PBCR		•		
Beaver Creek	310830030190		WWAC	•	SBCR		•		
Barnitz Creek	310830030200	PPWS	WWAC	•	PBCR		•		
East Barnitz Creek	310830030210	PPWS	WWAC	•	PBCR		•		
West Barnitz Creek	310830030230	PPWS	WWAC	•	PBCR		•		
Turkey Creek downstream from Clinton Lake	310830030260		WWAC	•	PBCR		•		
Clinton Lake	310830030280	PPWS	WWAC	•	PBCR		•	SWS	NLW
Oak Creek	310830030310	PPWS	WWAC	•	PBCR		•		
Panther Creek	310840010050	PPWS	WWAC	•	PBCR		•		
Quartermaster Creek	310840010060	PPWS	WWAC	•	PBCR		•		
Tributary of Quartermaster Creek at Sec. 17, T16N, R20W, IM (North Branch)	310840010080		HLAC	•	SBCR		•		
Hay Creek	310840010100	PPWS	WWAC	•	PBCR		•		
White Shield Creek	310840010120		HLAC	•	SBCR		•		
Sandstone Creek	310840020020, 310840020070	PPWS	WWAC	•	PBCR		•		
Dead Indian Creek	310840020120	PPWS	WWAC	•	PBCR		•		
Sergeant Major Creek	310840020140	PPWS	HLAC	•	SBCR		•		
Croton Creek	310840020190	PPWS	WWAC	•	PBCR		•		
Rush Creek	310840020210	PPWS	WWAC	•	PBCR		•		
Buncombe Creek	311100010070	PPWS	WWAC	•	PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Hauani Creek including Hauani Lake	31110001013O, 31110001014O	PPWS	WWAC	•	PBCR		•		
Hickory Creek	3111000200 10	PPWS	WWAC	•	PBCR		•		
Anadarche Creek downstream from Lake Murray	3111000200 20	PPWS	WWAC	•	PBCR		•		
Lake Murray and Watershed	3111000200 20, 3111000200 30, 3111000200 40, 3111000200 50, 3111000200 60, 3111000200 70, 3111000200 80, 3111000200 90	PPWS	WWAC	•	PBCR		•	SWS	
Red River from headwaters of Lake Texoma to Cache Creek	3111000010190, 3112000000 10	PPWS	WWAC	•	PBCR		•		
Walnut Bayou	3111000300 10, 3111000010250	PPWS	WWAC	•	PBCR		•		
Simon Creek	3111000300 20	PPWS	WWAC	•	PBCR		•		
Walnut Creek	3111000300 70	PPWS	WWAC	•	PBCR		•		
Tributary of Walnut Creek at Sec. 28, T4S, R2W, IM	3111000301 80_00		HLAC	•	SBCR		•		
Healdton Lake	3111000301 30	PPWS	WWAC	•	PBCR		•		
Whiskey Creek	3111000301 40		HLAC	•	SBCR		•		
Cottonwood Creek	3111000300 90	PPWS	WWAC	•	PBCR		•		
Tributary of Cottonwood Creek at Sec. 28, T4S, R1W, IM	3111000301 90_00		HLAC	•	SBCR		•		
Bull Creek	3111000300 60		HLAC	•	SBCR		•		
Mud Creek	3111000400 10	PPWS	WWAC	•	PBCR		•		
Clear Creek	3111000400 20	PPWS	WWAC	•	PBCR		•		
North Mud Creek	3111000400 30	PPWS	HLAC	•	PBCR		•		
Tributary of North Mud Creek at SW 1/4, Sec. 34, T4S, R4W, IM	3111000400 35_00		HLAC	•	SBCR		•		
West Mud Creek	3111000402 00	PPWS	WWAC	•	PBCR		•		
Negro Creek	3111000401 00	PPWS	WWAC	•	PBCR		•		
Willow Branch	3111000401 10	PPWS	WWAC	•	PBCR		•		
Crooked Creek	3111000401 20	PPWS	WWAC	•	PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Deer Creek	3111000040130	PPWS	WWAC	•	PBCR		•		
Comanche Lake	3111000040170		WWAC	•	PBCR		•		
Red Creek	3111000010290	PPWS	WWAC	•	PBCR		•		
Fleetwood Creek	3111000010300	PPWS	WWAC	•	PBCR		•		
Beaver Creek downstream from Waurika Lake	3112000000030, 3112000000010	PPWS	WWAC	•	PBCR		•		
Cow Creek	3112000000060	EWS	WWAC	•	PBCR		•		
Dry Creek	3112000000080	PPWS	WWAC	•	PBCR		•		
Cotton Creek	3112000000090	PPWS	WWAC	•	PBCR		•		
Claridy (Clarity) Creek	3112000000110	EWS	WWAC		PBCR		•		
East Cow Creek	3112000001000	EWS	HLAC	•	SBCR		•		
Tributary of East Cow Creek SW 1/4, Sec. 15, T1S, R7W, IM	3112000001600_00	EWS	HLAC	•	SBCR		•		
Beaver Creek upstream from and including Waurika Lake	3112100000010, 3112100000020	PPWS	WWAC	•	PBCR		•	SWS	
Walker Creek	3112100000030	PPWS	WWAC	•	PBCR		•	SWS	
Little Beaver Creek	3112100000050	PPWS	WWAC	•	PBCR		•	SWS	
Stage Stand Creek	3112100000060	PPWS	WWAC	•	PBCR		•	SWS	
Hell Creek	3112100000080	PPWS	WWAC	•	PBCR		•	SWS	
Ninemile Beaver Creek	3112100001300	PPWS	WWAC	•	PBCR		•		
Cache Creek	3113000100100	PPWS	WWAC	•	PBCR		•		
West Cache Creek downstream from Panther Creek	3113100200100, 3113100200200, 3113100201400	PPWS	WWAC	•	PBCR		•		
Deep Red Creek including Lake Fredrick	3113100300100, 3113100301100, 3113100301200	PPWS	WWAC	•	PBCR		•		
Pecan Creek	3113100200300	PPWS	WWAC	•	PBCR		•		
Little Deep Red Creek	3113100300400	PPWS	WWAC	•	PBCR		•		
Jack Creek	3113100300300	PPWS	WWAC	•	PBCR		•		
East Jack Creek	3113100300700	PPWS	WWAC	•	PBCR		•		
Horse Creek	3113100300800	PPWS	WWAC	•	PBCR		•		
Deadman Creek	3113100300900	PPWS	WWAC	•	PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Blue Beaver Creek	311310020050, 311310020060	PPWS	WWAC	•	PBCR		•		
Post Oak Creek	311310020070	PPWS	WWAC	•	PBCR		•		
Crater Creek	311310020100	PPWS	WWAC	•	PBCR		•	HQW	
Panther Creek	311310020150	PPWS	WWAC	•	PBCR		•	HQW	
West Cache Creek upstream from Panther Creek	311310020140	PPWS	WWAC	•	PBCR		•	HQW	
East Cache Creek downstream from Lake Ellsworth	311300010020, 311300020010	PPWS	WWAC	•	PBCR		•		
Temple Lake (Mooney) and Watershed	311300010040, 311300010050	PPWS	WWAC	•	PBCR		•	SWS	
Walters Lake (Dave Boyer Lake) and Watershed	311300010070, 311300010080	PPWS	WWAC	•	PBCR		•	SWS	
Ninemile Creek	311300020030		WWAC	•	PBCR		•		
Tributary to Ninemile Creek within Sec. 23, T1N, R11W, IM including Comanche Lake	311300020032_00		WWAC		PBCR		•		
Wolf Creek	311300020040	PPWS	WWAC	•	PBCR		•		
Medicine Creek downstream from Lake Lawtonka	311300040010, 311300040060	PPWS	WWAC	•	PBCR		•		
Elmer Thomas Lake and Watershed	311300040040, 311300040050	PPWS	WWAC	•	PBCR		•	SWS	
Lake Lawtonka and Watershed	311300040060, 311300040070, 311300040080, 311300040090, 311300040110_00, 311300040100_00	PPWS	WWAC	•	PBCR		•	SWS	
Lake Ellsworth and Watershed	311300030010, 311300030020, 311300030030, 311300030040, 311300030050, 311300030060, 311300030070, 311300030080	PPWS	WWAC	•	PBCR		•	SWS	
Red River from Cache Creek to North Fork of the Red River	311310010010	EWS	WWAC	•	PBCR		•		
Rabbit Creek	311310010020	PPWS	WWAC	•	PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Tributary of Red River at Sec. 29, T4S, R13W, IM	311310010035_00		HLAC	•	SBCR		•		
Blue Creek	311310010040	PPWS	WWAC	•	PBCR		•		
Suttle Creek	311310010070		WWAC	•	SBCR		•		
Tributary of Suttle Creek at SW 1/4, Sec. 20, T3S, R17W, IM	311310010090_00		HLAC	•	SBCR		•		
North Fork of the Red River including Lugert-Altus Reservoir	311500010020, 311510010010, 311510010020, 311510020010	PPWS	WWAC	•	PBCR		•		
Stinking Creek	311500010050	PPWS	WWAC	•	PBCR		•		
Tributary of Stinking Creek at SE 1/4, Sec. 30, T2N, R19W, IM	311500010055_00	EWS	HLAC	•	SBCR		•		
Otter Creek	311500010080	PPWS	WWAC	•	PBCR		•		
West Otter Creek downstream from Tom Steed Reservoir	311500020040	PPWS	WWAC	•	PBCR		•		
Tom Steed Reservoir (Mountain Park) and Watershed	311500020040, 311500020050, 311500020060, 311500020070	PPWS	WWAC	•	PBCR		•	SWS	
Glen Creek	311500020070	PPWS	WWAC	•	PBCR		•	SWS	
Elk Creek downstream from the confluence with Little Elk Creek	311500030010, 311500030030_00	PPWS	WWAC	•	PBCR		•		
Elk Creek from headwaters to confluence with Little Elk Creek	311500030030_10		HLAC	•	SBCR		•		
Little Elk Creek downstream from Lake Hobart	311500030040	PPWS	WWAC	•	PBCR		•		
Hobart (Rocky Hobart) Lake	311500030060	PPWS	WWAC	•	PBCR		•	SWS	NLW
Spring Creek	311500030080	PPWS	WWAC	•	PBCR		•		
Elk City Reservoir	311500030120		WWAC	•	PBCR		•		NLW
Elm Fork of the Red River	311800000010	PPWS	WWAC	•	PBCR		•		
Haystack Creek	311800000040	PPWS	WWAC	•	PBCR		•		
Deer Creek	311800000070	PPWS	WWAC	•	PBCR		•		
Fish Creek	311800000130	PPWS	WWAC	•	PBCR		•		
Bull Creek	311800000150	PPWS	WWAC	•	PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
North Elm Creek (West Elm Creek)	3118[redacted]170	PPWS	WWAC	•	PBCR		•		
Flat Creek	3115[redacted]070		WWAC	•	PBCR		•		
Timber Creek	3115[redacted]090	PPWS	WWAC	•	PBCR		•		
Sand Creek	3115[redacted]040	PPWS	WWAC	•	PBCR		•		
Long Creek	3115[redacted]050	PPWS	WWAC	•	PBCR		•		
Turkey Creek	3115[redacted]060	PPWS	WWAC	•	PBCR		•		
Starvation Creek	3115[redacted]070	PPWS	WWAC	•	PBCR		•		
Buffalo Creek	3115[redacted]090	PPWS	WWAC	•	PBCR		•		
Sweetwater Creek	3115[redacted]120	PPWS	WWAC	•	PBCR		•		
Red River from confluence of the North Fork of the Red River to Buck Creek	3116[redacted]010	EWS	WWAC	•	PBCR		•		
Salt Fork of the Red River to the Texas State Line	3116[redacted]010	PPWS	WWAC	•	PBCR		•		
Turkey Creek	3116[redacted]060	PPWS	WWAC	•	PBCR		•		
Bitter Creek downstream of the boundary of Sec. 3 & 2, T1N, R21W, IM	3116[redacted]110_00	EWS	WWAC	•	SBCR		•		
Bitter Creek upstream of the boundary of Sec. 3 & 2, T1N, R21W, IM	3116[redacted]110_05, 3116[redacted]110_10	EWS	HLAC	•	SBCR		•		
Gypsum Creek	3116[redacted]020	PPWS	WWAC	•	PBCR		•		
Sandy Creek (Lebos)	3116[redacted]040	EWS	HLAC	•	SBCR		•		
Lebos Creek	3116[redacted]060_00		HLAC	•	SBCR		•		
Tributary of Lebos Creek at Sec. 2, T2N, R26W, IM	3116[redacted]065_00		HLAC	•	SBCR		•		
Prairie Dog Town Fork of the Red River from confluence of Buck Creek to 100 degree West Longitude	3116[redacted]080	EWS	WWAC	•	PBCR		•		

APPENDIX A.4
Designated Beneficial Uses of Surface Waters
Water Quality Management Basin 4, Lower Red River

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Red River from the Arkansas State Line to the Kiamichi River	410100010010	PPWS	WWAC	•	PBCR		•		
Norwood Creek	410100010050	PPWS	WWAC	•	PBCR		•		
Waterhole Creek	410100010340	PPWS	WWAC	•	PBCR		•		
Buzzard Creek	410100010450		WWAC	•	PBCR		•		
Tributary of Buzzard Creek at NW 1/4, Sec. 5, T7S, R22E, IM (Millerton Trib)	410100010456_00		HLAC	•	SBCR		•		
Garland Creek	410100010460		WWAC		PBCR				
Tributary of Garland Creek at SE 1/4, Sec. 34, T6S, R21E, IM (Valiant Creek)	410100010470		HLAC	•	SBCR		•		
Little River from the Arkansas State Line to Pine Creek Dam	410200010010, 410200010200, 410210010010, 410210020010	PPWS	CWAC	•	PBCR		•	HQW	
Rock Creek	410200010220	PPWS	CWAC	•	PBCR		•		
Mountain Fork River downstream from U.S. Hwy 70 bridge	410210040010_00	PPWS	CWAC	•	PBCR		•	HQW	
Mountain Fork River upstream from U.S. Hwy 70 bridge to Broken Bow Dam	410210040010_10, 410210040050, 410210050010	PPWS	Trout	•	PBCR		•	HQW	
Upper Mountain Fork River from Dam including Broken Bow Lake to the 600 foot elevation level	410210050020, 410210060010_00	PPWS	CWAC	•	PBCR		•	SWS	
Egypt Creek	410210050140	PPWS	CWAC	•	PBCR		•	SWS	
Otter Creek	410210050190	PPWS	CWAC	•	PBCR		•	SWS	
Panther Creek	410210050360	PPWS	CWAC	•	PBCR		•	ORW	
Buffalo Creek	410210060020	PPWS	CWAC	•	PBCR		•	SWS	
Big Hudson	410210060030		CWAC		PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Mine Creek	410210060060		CWAC	•	PBCR		•		
Upper Mountain Fork River upstream from the 600 foot elevation level	410210060010_10	PPWS	CWAC	•	PBCR		•	ORW	Scenic River
Boktuklo Creek	410210060100	PPWS	CWAC	•	PBCR		•	ORW	
Blue Creek	410210060110	PPWS	CWAC	•	PBCR		•	ORW	
Big Eagle Creek	410210060160	PPWS	CWAC	•	PBCR		•	ORW	
Little Eagle Creek	410210060170	PPWS	CWAC	•	PBCR		•	ORW	
Dry Creek	410210060270		CWAC	•	PBCR		•		
Cucumber Creek	410210060210	PPWS	CWAC	•	PBCR		•	ORW	
Beech Creek	410210060320	PPWS	CWAC	•	PBCR		•	ORW	
Cow Creek	410210060350	PPWS	CWAC	•	PBCR		•	ORW	
Yanubbe Creek	410200010150	PPWS	CWAC	•	PBCR		•		
Tributary of Yanubbe Creek at NE 1/4, Sec. 29, T6S, R25E, IM	410200010155_00		HLAC	•	SBCR		•		
Mud Creek	410200010210	EWS	WWAC	•	SBCR		•		
Tributary of Mud Creek at SE 1/4, Sec. 31, T7S, R24E, IM	410200010218_00		HLAC	•	SBCR		•		
Yashau (Yashoo) Creek	410200010230	PPWS	CWAC	•	PBCR		•		
Lukfata Creek	410210070010	PPWS	CWAC	•	PBCR		•	H●W	
Glover River	410210080010	PPWS	CWAC	•	PBCR		•	H●W	
Cedar Creek	410210080120	PPWS	CWAC	•	PBCR		•	H●W	
Carter Creek	410210080210	PPWS	CWAC	•	PBCR		•	H●W	
Pine Creek	410210080270	PPWS	CWAC	•	PBCR		•	H●W	
West Fork	410210090070	PPWS	CWAC	•	PBCR		•	H●W	
Silver Creek	410210090100		CWAC	•	PBCR		•		
Bluff Creek	410210090160	PPWS	CWAC	•	PBCR		•	H●W	
East Fork	410210090010	PPWS	CWAC	•	PBCR		•	H●W	
Horse Head Creek	410210010060	PPWS	WWAC	•	PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Tributary of Horse Head Creek at Sec. 10, T6S, R22E, IM	41021001006 5_00		HLAC	•	SBCR		•		
Cypress Creek	41021001007 0	PPWS	CWAC	•	PBCR		•	H&W	
Little River upstream from and including Pine Creek Lake	41021002001 0, 41021002014 0, 41021002002 0, 41021003001 0	PPWS	CWAC	•	PBCR		•	H&W	
Pine Creek	41021002003 0	PPWS	CWAC	•	PBCR		•	H&W	
Terrapin Creek	41021002015 0	PPWS	CWAC	•	PBCR		•	H&W	
Houston Creek	41021002021 0	PPWS	CWAC	•	PBCR		•	H&W	
Caney Creek	41021002024 0		CWAC	•	PBCR		•		
Cloudy Creek	41021002030 0	PPWS	CWAC	•	PBCR		•	H&W	
Jack Creek	41021002043 0	PPWS	CWAC	•	PBCR		•	H&W	
Black Fork	41021003002 0	PPWS	CWAC	•	PBCR		•	H&W	
Red River upstream from the Kiamichi River to the Blue River	41040001001 0	PPWS	WWAC	•	PBCR		•		
Kiamichi River including Hugo Lake to U.S. Hwy. 271 Bridge near Clayton	41030001001 0, 41030002001 0, 41030002002 0, 41030003001 0_00	PPWS	WWAC	•	PBCR		•		
Gates Creek	41030001002 0, 41030001003 0	PPWS	CWAC	•	PBCR		•		
Lake Raymond Gary	41030001004 0		WWAC	•	PBCR		•		
Negro Creek	41030001006 0		HLAC	•	SBCR		•		
Bird Creek	41030001010 0	PPWS	WWAC	•	PBCR		•		
Long Creek	41030002008 0	PPWS	WWAC	•	PBCR		•		
North Fork	41030002006 0	PPWS	WWAC	•	PBCR		•		
Frazier Creek	41030002013 0	PPWS	CWAC	•	PBCR		•		
Rock Creek	41030002019 0	PPWS	CWAC	•	PBCR		•		
Cedar Creek	41030003002 0	PPWS	CWAC	•	PBCR		•	H&W	
Beaver Creek	41030003020 0	PPWS	WWAC	•	PBCR		•		
Tenmile Creek	41030003027 0	PPWS	WWAC	•	PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Buck Creek	410300030420	PPWS	WWAC	•	PBCR		•		
Clayton Lake and Watershed	410300030760, 410300030780	PPWS	WWAC	•	PBCR		•	SWS	
Kiamichi River upstream from U.S. Hwy 271 Bridge near Clayton	410300030010_10, 410300030570, 410310010010, 410310020010	PPWS	WWAC	•	PBCR		•		
Jackfork Creek including Sardis Lake	410310010020, 410310030020, 410310030100	PPWS	WWAC	•	PBCR		•	SWS	
Buffalo Creek	410310030030	PPWS	WWAC	•	PBCR		•	SWS	
Lake Nanih Waiya	410310010050		WWAC	•	PBCR		•		
Rock Creek	410310010170	PPWS	WWAC	•	PBCR		•		
Lake Ozzie Cobb and watershed	410300020190, 410300020220		WWAC	•	PBCR		•		NLW
Carl Albert Lake and Watershed	410310010210, 410310010220	PPWS	WWAC	•	PBCR		•	SWS	
Talihina Lake and Watershed	410310010230	PPWS	WWAC	•	PBCR		•	SWS	
Pigeon Creek	410310020110	PPWS	CWAC	•	PBCR		•		
Horse Creek downstream from the borders of Sec. 10 & 15, T7S, R17E, IM	410400010040_00	PPWS	WWAC	•	PBCR		•		
Horse Creek upstream from the borders of Sec. 10 & 15, T7S, R17E, IM	410400010040_10		WWAC	•	SBCR		•		
Tributary of Horse Creek at NE 1/4, Sec. 4, T7S, R17E, IM	410400010045_00		HLAC	•	SBCR		•		
Unnamed tributary of Red River at SW SE SE Sec. 22, T7S, R17E, IM	410400010090_00		HLAC	•	SBCR		•		
Muddy Boggy Creek	410400010070, 410400050010, 410400050270, 410400060010	PPWS	WWAC	•	PBCR		•		
Tributary of Muddy Boggy Creek at NW 1/4, Sec. 12, T2S, R11E, IM	410400050495_00		HLAC	•	SBCR		•		
Lick Creek	410400010130	PPWS	WWAC	•	PBCR		•		
Clear Boggy Creek	410400020010, 410400030010, 410400030230, 410400040010	PPWS	WWAC	•	PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Mayhew Creek	410400020020		WWAC	•	PBCR		•		
Unnamed tributary to Mayhew Creek at Sec. 7, T6S, R14E, IM (Boswell Creek)	410400020025_00		HLAC		SBCR		•		
Caney Creek	410400030020		WWAC	•	SBCR		•		
Delaware Creek	410400030240	PPWS	WWAC	•	PBCR		•		
Sandy Creek	410400030280	PPWS	WWAC	•	PBCR		•		
Tributary of Sandy Creek at SE 1/4, Sec. 14, T2S, R8E, IM (Wapanucka Creek)	410400030290		HLAC	•	SBCR		•		
Wide Springs Branch	410400030320	PPWS	WWAC	•	PBCR		•		
Bois D' Arc Creek	410400020160		WWAC		PBCR		•		
(Byrds) Mill Creek	410400040090	PPWS	WWAC	•	PBCR		•		
McGee Creek including McGee Creek Reservoir	410400070010, 410400070020	PPWS	WWAC	•	PBCR		•	SWS	
North Boggy Creek downstream from Atoka Reservoir	410400050410_00	PPWS	WWAC	•	PBCR		•		
Tributary of North Boggy Creek at NW1/4, Sec. 29, T1S, R12E, IM	410400050415_00		HLAC	•	SBCR		•		
North Boggy Creek upstream from and including Atoka Reservoir	410400080010, 410400080020	PPWS	WWAC	•	PBCR		•	SWS	
Sub Penitentiary Lake (Blue Stem)	410400080060	PPWS	WWAC	•	PBCR		•		
Kiowa City Lake on trib to Buck Creek	410400080200	PPWS	WWAC	•	PBCR		•		
Coal Creek	410400050540	PPWS	WWAC	•	PBCR		•		
Tributary of Brier Creek at Sec. 35, T1N, R10E, IM	410400050585_00		HLAC	•	SBCR		•		
Caney Creek	410400060020	PPWS	WWAC	•	PBCR		•		
Coon Creek	410400060030	PPWS	WWAC	•	PBCR		•		
Coalgate Reservoir and Watershed	410400060030, 410400060040, 410400060050	PPWS	WWAC	•	PBCR		•	SWS	
Caney Boggy Creek	410400060120	PPWS	WWAC	•	PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Sandy Creek	410400030280	PPWS	WWAC	•	PBCR		•		
Little Sandy Creek	410400060270		HLAC	•	SBCR		•		
Town Branch	410400060310_00		HLAC	•	SBCR		•		
Whitegrass Creek	410400010210	PPWS	WWAC	•	PBCR		•		
Blue River downstream from the State Hwy. 48A Bridge	410600010010, 410600010290, 410600020010	PPWS	WWAC	•	PBCR		•		
Tributary of Bokchito Creek at Sec. 22, T6S, R11E, IM	410600010095		HLAC	•	SBCR		•		
Caddo Creek	410600010140		WWAC	•	PBCR		•		
Mineral Bayou	410600010300	EWS	WWAC	•	PBCR		•		
Little Blue River	410600010340	PPWS	WWAC	•	PBCR		•		
Sandy Creek	410600010250	PPWS	WWAC	•	PBCR		•		
Blue River upstream from State Hwy. 48A Bridge to State Hwy. 7 Bridge	410600020010_10	PPWS	Trout	•	PBCR		•	HQW	
Blue River upstream from State Hwy. 7 Bridge	410700020010_20	PPWS	CWAC	•	PBCR		•	HQW	
Red River upstream from the Blue River to Lake Texoma Dam	410700000010	PPWS	WWAC	•	PBCR		•		
Island Bayou	410700000040	EWS	WWAC	•	SBCR		•		
Sandy Creek	410700000250	PPWS	WWAC	•	PBCR		•		
Tributary of Sandy Creek at Sec. 20, T8S, R8E, IM	410700000250_00		IILAC	•	SBCR		•		

APPENDIX A.5
Designated Beneficial Uses of Surface Waters
Water Quality Management Basin 5, Canadian River

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
North Canadian River from Canadian River to S.H. 99 bridge	52050001011O_10, 52051000010, 52051000011O_00	PPWS	WWAC	•	PBCR		•		
Deep Fork of Canadian River downstream from Arcadia Lake	52070001012O, 52070002001O, 52070003001O, 52070004001O, 52070005001O, 52071001001O, 52071002001O	PPWS	WWAC	•	PBCR		•		
Wolf Creek downstream from Lake Henryetta	52070001013O, 52070001017O_00		WWAC	•	PBCR		•		
Coal Creek	52070001014O	EWS	WWAC	•	SBCR		•		
Henryetta Lake and Watershed	52070001017O_10, 52070001018O	PPWS	WWAC	•	PBCR		•	SWS	
Moore Creek	52070001019O		WWAC	•	PBCR		•		
Burgess Creek at Montezuma Creek NE 1/4, Sec. 8, T12N, R13E, IM	52070001023O	EWS	WWAC	•	PBCR		•		
Cussetah (Cosseetta) Creek	52070001025O		WWAC	•	PBCR		•		
Tributary of Cussetah at NE 1/4, Sec. 12, T13N, R13E, IM	52070001031O_00		HLAC	•	SBCR		•		
Salt Creek downstream from Okmulgee Lake	52070002002O	PPWS	WWAC	•	PBCR		•		
Dripping Springs Lake	52070002006O	PPWS	WWAC	•	PBCR		•		
Okmulgee Lake and Watershed	52070002004O, 52070002005O, 52070002006O	PPWS	WWAC	•	PBCR		•	SWS	
Adams Creek including Beggs Lake	52070002008O, 52070002011O	PPWS	WWAC		PBCR		•		
Flat Rock Creek	52070002009O	PPWS	WWAC	•	PBCR		•		
New Beggs Lake	52070002013O	PPWS	WWAC	•	PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Tributary of Adams Creek at NW 1/4, Sec. 5, T14N, R12E, IM (West Beggs Creek)	52070002010	EWS	WWAC	•	PBCR		•		
Little Deep Fork Creek downstream from Sand Creek	52070006001, 52070006010		WWAC	•	PBCR		•		
Brown's Creek	52070006005	PPWS	WWAC		PBCR		•		
Little Deep Fork Creek upstream from Sand Creek to State Hwy. 48 Bridge	52070006013_00	PPWS	HLAC	•	SBCR		•		
Little Deep Fork Creek upstream from State Hwy. 48 Bridge	52070006013_10	PPWS	WWAC	•	PBCR		•		
Catfish Creek	52070006014	PPWS	WWAC	•	PBCR		•		
Tributary of Little Deep Fork Creek at SE 1/4, Sec. 6, T15N, R8E, IM	52070006022_00		HLAC	•	SBCR		•		
Nuyaka Creek	52070002020	PPWS	WWAC	•	PBCR		•		
Buckeye Creek	52070002027, 52070002028	PPWS	WWAC	•	PBCR		•		
Okemah Lake and Watershed	52070002028, 52070002029, 52070002030	PPWS	WWAC	•	PBCR		•	SWS	
Salt Creek	52070003010	PPWS	WWAC	•	PBCR		•		
Camp Creek downstream from Stroud Lake	52070003022	PPWS	WWAC	•	PBCR		•		
Stroud Lake and Watershed	52070003022, 52070003023, 52070003024	PPWS	WWAC	•	PBCR		•	SWS	
Gray Horse Creek	52070004003		HLAC	•	SBCR		•		
Dry Creek	52070004002	PPWS	WWAC	•	PBCR		•		
Chuckaho Creek	52070004006	PPWS	WWAC	•	PBCR		•		
West Beaver Creek	52070004017		WWAC	•	SBCR		•		
Deer Creek	52070004019	PPWS	WWAC	•	PBCR		•		
Robinson Creek	52070004018	PPWS	WWAC	•	PBCR		•		
Prague Lake	52072004002		WWAC	•	PBCR		•		
Quapaw Creek	52070004026	PPWS	WWAC	•	PBCR		•		
Sparks City Lake	52070004028	PPWS	WWAC	•	PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Meeker Lake and Watershed	52070004035O, 52070004036O, 52070004037O	PPWS	WWAC	•	PBCR		•	SWS	
Bellcow Creek including Bellcow Lake	52070005002O, 52070005003O, 52072005002S	PPWS	WWAC	•	PBCR		•		
Chandler Lake and Watershed	52070005005O, 52070005006O, 52070005025O	PPWS	WWAC	•	PBCR		•	SWS	
Tributary of Bellcow Creek at Sec. 6, T15N, R3E, IM	52070005026O_00		HLAC	•	SBCR		•		
Kickapoo Creek	52070005009O	PPWS	WWAC	•	PBCR		•		
East Captain Creek	52070005015O	PPWS	WWAC	•	PBCR		•		
Bear Creek	52070005017O	PPWS	WWAC	•	PBCR		•		
Smith Creek	52071001002O	PPWS	HLAC	•	PBCR		•		
Coon Creek	52071001003O		WWAC	•	PBCR		•		
Coffee Creek downstream from the boundaries of Sec. 22 & 23, T14N, R02W, IM	52071001009O_00	PPWS	HLAC	•	PBCR		•		
Coffee Creek upstream from the boundaries of Sec. 22 & 23, T14N, R02W, IM	52071001009O_10, 52071001010O	PPWS	WWAC	•	PBCR		•		
Arcadia Lake and Watershed	52071002001O, 52071002002O, 52071002003O, 52071002004O, 52071002005O, 52071002006O, 52071002007O, 52071002008O, 52071002009O, 52071002010O, 52071002011O, 52071002012O, 52071002013O, 52071002014O, 52071002015O, 52071002016O	PPWS	WWAC	•	PBCR		•	SWS	
Bad Creek	52050001017O	PPWS	WWAC	•	PBCR		•		
Dustin Lake	52050001015Z	PPWS	WWAC	•	PBCR		•		
Alabama Creek	52050001020O	PPWS	WWAC	•	PBCR		•		
Weleetka Lake and Watershed	52050001021O, 52050001022O	PPWS	WWAC	•	PBCR		•	SWS	

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Wewoka Creek downstream from the boundaries of Sec. 27 & 28, T9N, R6E, IM	52050002001O, 52050002024O_00	EWS	WWAC	•	PBCR		•		
Sportsman Lake	52050002022O	PPWS	WWAC	•	PBCR		•		
Fish Creek	52050002003O	PPWS	WWAC	•	PBCR		•		
Tributary of Wewoka Creek at SE NE SW Sec. 27, T9N, R10E, IM (Wetumka Creek)	52050002003 5		HLAC	•	SBCR		•		
Graves Creek	52050002006O	PPWS	WWAC	•	PBCR		•		
Little Wewoka Creek	52050002009O	PPWS	WWAC	•	PBCR		•		
Tributary of Wewoka Creek at Sec. 20, T8N, R8E, IM (Oakwood Cemetery Creek)	52050002028O		HLAC	•	SBCR		•		
Wewoka Lake and Watershed	52050002017O, 52050002018O, 52050002019O	PPWS	WWAC	•	PBCR		•	SWS	
Wewoka Creek upstream from the boundaries of Sec. 27 & 28, T9N, R6E, IM	52050002024O_1O	PPWS	HLAC	•	SBCR		•		
Tributary of Wewoka Creek at NW 1/4, Sec. 16, T9N, R5E, IM	52050002029O_00		HLAC	•	SBCR		•		
Tributary of North Canadian River at Sec. 22, T10N, R11E, IM	52050O		HLAC	•	SBCR		•		
Lake Wetumka	52050001027O	PPWS	WWAC	•	PBCR		•		
Flat Rock Creek	52050001028O_00	PPWS	WWAC	•	PBCR		•		
Sand Creek	52051000005O		HLAC	•	SBCR		•		
Tributary of Sand Creek at SW 1/4, Sec. 34, T11N, R8E, IM	52051000053_00		HLAC	•	SBCR		•		
Boley Creek	52051000005 5		HLAC	•	SBCR		•		
Turkey Creek	52051000010O	PPWS	WWAC	•	PBCR		•		
Tecumseh Lake and Watershed	52051000020O, 52051000021O, 52051000022O	PPWS	WWAC	•	PBCR		•	SWS	
Shan Creek	52051000012O		HLAC	•	SBCR		•		
Tributary of Squirrel Creek at SE 1/4 of NW 1/4 of SW 1/4 of Sec. 6, T9N, R4E, IM	52051000039O_00		WWAC	•	PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Shawnee Twin Lakes and Watershed	520510000250, 520510000280, 520510000290, 520510000300	PPWS	WWAC	•	PBCR		•	SWS	
North Deer Creek including Wes Watkins Reservoir (N. Deer Creek Lake)	520510000310, 520510000255	PPWS	WWAC	•	PBCR		•		
Tributary of the North Canadian River at NE 1/4, Sec. 36, T12N, R1E, IM	520510000320_00		HLAC	•	SCBR		•		
Horseshoe Lake	520510000330		WWAC		PBCR		•		
North Canadian River from State Hwy. 99 Bridge to Portland Street Bridge, Oklahoma City	520510000110, 520520000010_40	EWS	WWAC	•	PBCR		•		
Choctaw Creek	520520000030	EWS	HLAC	•	SBCR		•		
Tributary of Choctaw Creek at NW 1/4, Sec. 27, T12N, R1W, IM	520520000035_00		HLAC	•	PBCR		•		
Crutcho Creek from North Canadian River to S.E. 15th Street, Del City	520520000070_00		WWAC	•	PBCR		•		
Soldier Creek	520520000080		WWAC	•	PBCR		•		
Tributary of Soldier Creek at NW 1/4, Sec. 13, T11N, R02W, IM	520520000290		WWAC	•	SBCR		•		
Crutcho Creek upstream from S.E. 15th Street, Del City	520520000070_10, 520520000090		HLAC	•	SBCR		•		
Tributary of Crutcho Creek at SW 1/4, Sec. 16, T11N, R2W, IM	520520000190_00		WWAC	•	PBCR		•		
Cherry Creek	520520000110		HLAC	•	SBCR		•		
Crooked Oak Creek	520520000150	PPWS	WWAC	•	PBCR		•		
North Canadian River from Portland Street Bridge to Canton Lake Dam	520520000010_50, 520520000250, 520530000010	PPWS	WWAC	•	PBCR		•		
Mustang Creek	520520000240		WWAC	•	PBCR		•		
Lake Overholser	520520000260	PPWS	WWAC	•	PBCR		•		NLW
Shell Creek	520530000030	PPWS	WWAC	•	PBCR		•		
Purcell Creek	520530000040	PPWS	WWAC	•	PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Six Mile Creek	520530000050	PPWS	WWAC	•	PBCR		•		
Lake El Reno	520530000080		WWAC	•	PBCR		•		
Unnamed tributary of North Canadian River at Sec. 6, T13N, R10W, IM and NW SE NE 1/4 of Sec. 31, T14N, R10W, IM	520530000200_00		HLAC	•	SBCR		•		
Minnehaha Creek	520530000190	PPWS	WWAC	•	SBCR		•		
Canadian River from its confluence with Little River to Buckhead Creek	520600010010, 520600020010, 520610010010	PPWS	WWAC	•	PBCR		•		
Little River	520800010010, 520800010090, 520800010130, 520800020010	PPWS	WWAC	•	PBCR		•		
Lake Holdenville and Watershed	520800010030, 520800010040	PPWS	WWAC	•	PBCR		•	SWS	
Bird Creek	520800010050		HLAC	•	SBCR		•		
Tributary of Bird Creek at NW 1/4, Sec. 6, T6N, R9E, IM	520800010150_00		WWAC	•	SBCR		•		
Salt Creek	520800030010	PPWS	WWAC	•	PBCR		•		
Tributary to Salt Creek at NW SW Sec. 33, T8N R5E, IM (Maud Creek)	520800030040_00		WWAC	•	PBCR		•		
Unnamed tributary of Little River at Sec. 33, T8N, R6E, IM	520800010200_00		HLAC	•	SBCR		•		
Lake Thunderbird and Watershed	520810000010, 520810000020, 520810000030, 520810000040, 520810000050, 520810000060, 520810000070, 520810000080, 520810000090, 520810000100, 520810000110, 520810000120, 520810000130, 520810000140, 520810000150, 520810000170, 520810000175, 520810000180	PPWS	WWAC	•	PBCR		•	SWS	NLW
Stanley Draper Lake	520810000130	PPWS	WWAC	•	PBCR		•		
Tributary of Canadian River at SE 1/4, Sec.18, T5N, R7E, IM	520600010120_00		HLAC	•	SBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Jumper Creek including Lake Konawa	52060001008O, 52060001009O, 5206000101OO	EWS	WWAC	•	PBCR		•		
Canadian Sandy Creek	5206000300 1O	PPWS	WWAC	•	PBCR		•		
Little Sandy Creek	5206000300 2O	PPWS	WWAC	•	PBCR		•		
Spring Brook Creek	5206000300 3O	PPWS	WWAC	•	PBCR		•		
Tributary of Cat Creek at Sec. 7, T6N, R4E, IM	52060002O165_OO		HLAC	•	SBCR		•		
Pond Creek	5206000 2O19O	PPWS	WWAC	•	PBCR		•		
Canadian River upstream from its confluence with Buckhead Creek to the US Hwy. 81 bridge	52061001001O, 52061002001O, 52061002O15O_OO		WWAC	•	PBCR		•		
Buckhead Creek	52061001002O	PPWS	WWAC	•	PBCR		•		
Tributary of Canadian River at NE 1/4, Sec. 35, T6N, R1W, IM	52061O		HLAC	•	SBCR		•		
Walnut Creek	52061003001O		WWAC	•	PBCR		•		
Purcell Lake	52061003004O		WWAC	•	PBCR		•		
Bridge Creek at Sec. 22, T9N, R5W, IM	52061003010O		WWAC	•	PBCR		•		
Pond Creek (return flow, City of Newcastle)	52061001021O	PPWS	WWAC	•	PBCR		•		
Tributary of Pond Creek at NE 1/4, Sec. 14, T9N, R4W, IM (Tim's Creek)	52061001O215		HLAC	•	SBCR		•		
Cow Creek	52061001023O	PPWS	WWAC	•	PBCR		•		
Dry Creek	52061002007O	PPWS	WWAC	•	PBCR		•		
Store Creek	52061002008O	PPWS	WWAC	•	PBCR		•		
West Creek	52061002009O		HLAC	•	SBCR		•		
Buggy Creek	52061002012O	EWS	WWAC	•	PBCR		•		
Tributary of Canadian River at SW 1/4, Sec. 3, T1ON, R7W, IM	52061002O155_OO		HLAC	•	SBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Canadian River upstream from US Hwy. 81 bridge	520610020150_10, 520620010010, 520620020010, 520620030010, 520620040010, 520620050010	EWS	WWAC	•	PBCR		•		
Deer Creek	520620060010	PPWS	WWAC	•	PBCR		•		
Little Deep Creek	520620060040		HLAC	•	PBCR		•		
Little Deer Creek	520620060070	PPWS	WWAC	•	PBCR		•		
Horse Creek	520620060080	PPWS	WWAC	•	PBCR		•		
American Horse Lake	520620010100		WWAC	•	PBCR		•		
Tributary of Canadian River at SE 1/4,Sec. 4, T15N, R14W, IM (West Fay Creek)	520620010160		HLAC	•	SBCR		•		
Squirrel Creek	520620020080	PPWS	WWAC	•	PBCR		•		
Lone Creek	520620030020	PPWS	WWAC	•	PBCR		•		
Trail Creek	520620020090	EWS	HLAC	•	SBCR		•		
Gyp Creek	520620030100	PPWS	WWAC	•	PBCR		•		
Red Creek	520620030110	PPWS	WWAC	•	PBCR		•		
Turkey Creek	520620030130	PPWS	WWAC	•	PBCR		•		
South Turkey Creek	520620030150	PPWS	WWAC	•	PBCR		•		
Hackberry Creek	520620040050	PPWS	WWAC	•	PBCR		•		
Trib to Mosquito Creek downstream from Sec. 31, T19N, R24W, IM	520620050110	PPWS	WWAC	•	PBCR		•		
Trib to Mosquito Creek upstream from Sec. 6, T18N, R24W, IM	520620050120	EWS	HLAC	•	SBCR		•		
Red Bluff Creek	520620050140	PPWS	WWAC	•	PBCR		•		
Commission Creek	520620050160	PPWS	WWAC	•	PBCR				
Lake Lloyd Vincent	520620050200		WWAC	•	PBCR		•		

APPENDIX A.6
Designated Beneficial Uses of Surface Waters
Water Quality Management Basin 6, Upper Arkansas River

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Arkansas River upstream from and including Keystone Reservoir to Kaw Dam	620900010020, 620900010090, 621200010020, 621200010040, 621200010050, 621200020010	PPWS	WWAC	•	PBCR		•		
Cimarron River upstream from Keystone Reservoir to the Kansas State Line	620900010170, 620900020010, 620900030010, 620910010010, 620910020010, 620920010010, 620920020010, 620920030010	EWS	WWAC	•	PBCR		•		
Buckeye Creek	620900010220		WWAC		PBCR		•		
Tiger Creek	620900010250		WWAC	•	PBCR		•		
Euchee Creek downstream from Sec. 5, T17N, R6E, IM	620900010290_00	EWS	WWAC	•	PBCR		•		
Euchee Creek upstream from Sec. 5, T17N, R6E, IM	620900010290_10	EWS	WWAC	•	SBCR		•		
Cottonwood Creek	620900010310	EWS	WWAC	•	PBCR		•		
Wildhorse Creek	620900010320	EWS	WWAC	•	PBCR		•		
Skull Creek	620900010360	EWS	WWAC	•	PBCR		•		
Salt Creek	620900020020	PPWS	WWAC	•	PBCR		•		
Council Creek	620900020050	PPWS	WWAC	•	PBCR		•		
Big Creek downstream from Cushing Lake	620900020100	PPWS	WWAC	•	PBCR		•		
Cushing Lake and Watershed	620900020110, 620900020120, 620900020130	PPWS	WWAC	•	PBCR		•	SWS	
Stillwater Creek downstream from Little Stillwater Creek	620900040040	PPWS	WWAC	•	PBCR		•		
Little Stillwater Creek	620900040050	PPWS	WWAC	•	PBCR		•		
Stillwater Creek from Little Stillwater Creek to Sec. 32, T19N, R3E, IM	620900040070_00	EWS	HLAC	•	PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Stillwater Creek upstream from Sec. 33, T19N, R3E, IM to the Carl Blackwell Lake Dam	620900040070_10, 620900040270_00	EWS	HLAC	•	SBCR		•		
Brush Creek	620900040090		HLAC	•	SBCR		•		
Boomer Creek below Boomer Lake	620900040140, 620900040180	PPWS	WWAC	•	PBCR		•		
Boomer Lake and Watershed	620900040180, 620900040190	PPWS	WWAC	•	PBCR		•	SWS	
Lake McMurtry and Watershed	620900040220, 620900040230, 620900040240	PPWS	WWAC	•	PBCR		•	SWS	
Carl Blackwell Lake and Watershed	620900040270_10, 620900040280, 620900040290, 620900040300	PPWS	WWAC	•	PBCR		•	SWS	
Sand Creek	620900030040		HLAC	•	SBCR		•		
Dugout Creek	620900030080	PPWS	WWAC	•	PBCR		•		
Fitzgerald Creek	620900030150	PPWS	WWAC	•	PBCR		•		
Langston Lake and Watershed	620900030170, 620900030180	PPWS	WWAC	•	PBCR		•	SWS	
Beaver Creek	620900030230	PPWS	WWAC	•	PBCR		•		
Skeleton Creek downstream from Bitter Creek	620910030010, 620910030170_00	PPWS	WWAC	•	PBCR		•		
Wolf Creek	620910030020	PPWS	WWAC	•	PBCR		•		
Otter Creek	620910030040	PPWS	WWAC	•	PBCR		•		
Horse Creek	620910030110	PPWS	WWAC	•	PBCR		•		
Bitter Creek	620910030180	PPWS	WWAC	•	PBCR		•		
Skeleton Creek from Bitter Creek to Boggy Creek	620910030170_10,	EWS	HLAC	•	SBCR		•		
Hackberry Creek	620910030220	EWS	WWAC	•	SBCR		•		
Tributary of Skeleton Creek at Sec. 27, T22N, R5W, IM (Fairmont Creek)	620910030230_00		HLAC	•	SBCR		•		
Skeleton Creek upstream from Boggy Creek	620900030240_00	PPWS	WWAC	•	PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Tributary of Boggy Creek at NW 1/4, Sec. 14, T22N, R6W, IM	621010		HLAC	•	SBCR		•		
Cottonwood Creek	620910040010	PPWS	WWAC	•	PBCR		•		
Guthrie Lake and Watershed	620910040050, 620910040060	PPWS	WWAC	•	PBCR		•	SWS	
Liberty Lake and Watershed	620910040070, 620910040080	PPWS	WWAC	•	PBCR		•	SWS	
Chisholm Creek	620910040100	PPWS	WWAC	•	PBCR		•		
Deer Creek	620910040120	PPWS	WWAC	•	PBCR		•		
Bluff Creek	620910040140	PPWS	WWAC	•	PBCR		•		
Hefner Lake	620910040200_00	PPWS	WWAC	•	PBCR		•		
Kingfisher Creek	620910050010		WWAC	•	PBCR		•		
Uncle John Creek	620910050030		WWAC	•	PBCR		•		
Winter Camp Creek	620910050080	PPWS	WWAC	•	PBCR		•		
Tributary of Winter Camp Creek at NE 1/4, Sec. 19, T15N, R8W, IM	620910050085_00	EWS	HLAC	•	SBCR		•		
Otter Creek	620910050130	PPWS	WWAC	•	PBCR		•		
Turkey Creek	620910060010	PPWS	WWAC	•	PBCR		•		
Unnamed tributary of Turkey Creek at Sec. 23, T19N, R7W, IM (Narragansett Creek)	620910060025_00		HLAC	•	SBCR		•		
Dry Salt Creek	620910060140		HLAC	•	SBCR		•		
Tributary of Dry Salt Creek at NW 1/4, Sec. 15, T21N, R8W, IM	620910060145_00		HLAC	•	SBCR		•		
Cooper Creek	620910020040	PPWS	WWAC	•	PBCR		•		
Salt Creek downstream from the Blaine-Kingfisher County Line	620910020100_00	EWS	WWAC	•	SBCR		•		
Salt Creek upstream from the Blaine-Kingfisher County Line	620910020100_10	EWS	HLAC	•	SBCR		•		
Spring Creek	620910020110	PPWS	WWAC	•	PBCR		•		
Tributary of Spring Creek at Sec. 19, T19N, R10W, IM	620910020115_00		HLAC	•	SBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Tributary of Salt Creek at Sec. 11, T17N, R11W, IM (Hitchcock Creek)	620910020120_00		HLAC	•	SBCR		•		
Hoyle Creek	620910020210	PPWS	WWAC	•	PBCR		•		
Deep Creek	620910020250	PPWS	WWAC	•	PBCR		•		
Elm Creek	620910020270	PPWS	WWAC	•	PBCR		•		
Indian Creek	620910020310	PPWS	WWAC	•	PBCR		•		
Sand Creek	620920010020	PPWS	WWAC	•	PBCR		•		
Gypsum Creek	620920010030	PPWS	WWAC	•	PBCR		•		
Cottonwood Creek	620920010080	PPWS	WWAC	•	PBCR		•		
Eagle Chief Creek	620920040010	PPWS	WWAC	•	PBCR		•		
Tributary of Eagle Chief Creek at Sec. 36, T24N, R12W, IM (Big Timber Lake Creek)	620920040030		HLAC	•	SBCR		•		
Lake Creek	620920040100		WWAC	•	PBCR		•		
Cheyenne Creek	620920010100	PPWS	WWAC	•	PBCR		•		
Barney Creek	620920010110	PPWS	WWAC	•	PBCR		•		
Griever Creek	620920010130	PPWS	WWAC	•	PBCR		•		
East Griever Creek	620920010140	PPWS	WWAC	•	PBCR		•		
Main Creek	620920010180	PPWS	WWAC	•	PBCR		•		
Ewers Creek	620920010190	PPWS	WWAC	•	PBCR		•		
Dog Creek	620920020020	EWS	WWAC	•	PBCR		•		
Sand Creek	620920020030	PPWS	WWAC	•	PBCR		•		
Chimney Creek	620920020040	PPWS	WWAC	•	PBCR		•		
White Horse Creek	620920020050	PPWS	WWAC	•	PBCR		•		
Doe Creek	620920020060	PPWS	WWAC	•	PBCR		•		
Long Creek	620920020080	PPWS	WWAC	•	PBCR		•		
Red Horse Creek	620920020110	PPWS	WWAC	•	PBCR		•		
Anderson Creek	620920020120	PPWS	WWAC	•	PBCR		•		
Traders Creek	620920020170	PPWS	WWAC	•	PBCR		•		
Moccasin Creek	620920020180	PPWS	WWAC	•	PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Sand Creek	620920020200	PPWS	WWAC	•	PBCR		•		
Buffalo Creek	620920050010	PPWS	WWAC	•	PBCR		•		
Sleeping Bear Creek	620920050030	PPWS	WWAC	•	PBCR		•		
Sand Creek	620920050050	PPWS	WWAC	•	PBCR		•		
Day Creek	620920030030	PPWS	WWAC	•	PBCR		•		
Keno Creek	620920030040	PPWS	WWAC	•	PBCR		•		
Cimarron River from Kansas State Line near Englewood, Kansas to the Kansas State Line near Forgan, Oklahoma	620930000010	PPWS	WWAC	•	PBCR		•		
Snake Creek	620930000020	PPWS	WWAC	•	PBCR		•		
Redoubt Creek	620930000030	PPWS	WWAC	•	PBCR		•		
Horse Creek	620930000060	EWS	WWAC	•	SBCR		•		
Crooked Creek	620930000100	PPWS	WWAC	•	PBCR		•		
Cottonwood Creek	620930000110	PPWS	WWAC	•	PBCR		•		
Bug Creek	621200010320	PPWS	WWAC	•	PBCR		•		
Ranch Creek including Cleveland Lake	621200010260, 621200010270	PPWS	WWAC	•	PBCR		•		
Black Bear Creek	621200030010, 621200030260	PPWS	WWAC	•	PBCR		•		
Camp Creek including Lone Chimney Lake	621200030040, 621200030060	PPWS	WWAC	•	PBCR		•		
Pawnee Lake and Watershed	621200030080, 621200030090, 621200030100, 621200030110, 621200030120	PPWS	WWAC	•	PBCR		•	SWS	
Oak Creek	621200030190	PPWS	WWAC	•	PBCR		•		
Tributary of Oak Creek at SE 1/4, Sec. 27, T21N, R3E, IM	621200030195_00		WWAC	•	PBCR		•		
Mule Creek	621200030230	PPWS	WWAC	•	PBCR		•		
Cow Creek downstream from Lake Perry	621200030270,	PPWS	WWAC	•	PBCR		•		
Lake Perry and Watershed	621200030340, 621200030350	PPWS	WWAC	•	PBCR		•	SWS	
West Warren Creek	621200030390	PPWS	WWAC	•	PBCR		•		
Salt Creek	621200040010	PPWS	WWAC	•	PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Bluff Creek	6211[redacted]230	PPWS	WWAC	•	PBCR		•		
Deer Creek	6210[redacted]4010	PPWS	WWAC	•	PBCR		•		
Pond Creek	6210[redacted]5010	PPWS	WWAC	•	PBCR		•		
Polecat Creek	6210[redacted]5030	PPWS	WWAC	•	PBCR		•		
Bullwacker Creek	6210[redacted]5080	EWS	HLAC	•	SBCR		•		
Osage Creek	6210[redacted]5100	PPWS	WWAC	•	PBCR		•		
Crooked Creek	6210[redacted]6010	PPWS	WWAC	•	PBCR		•		
Sand Creek	6210[redacted]6030	PPWS	WWAC	•	PBCR		•		
Wagon Creek	6210[redacted]20200	PPWS	WWAC	•	PBCR		•		
Tributary of Wagon Creek at Sec. 10, T25N, R9W, IM	6210[redacted]20210_00		HLAC	•	SBCR		•		
Clay Creek	6210100[redacted]090	EWS	WWAC	•	PBCR		•		
East Clay Creek	6210100[redacted]110	PPWS	WWAC	•	PBCR		•		
West Clay Creek	6210100[redacted]130	PPWS	WWAC	•	PBCR		•		
Sandy Creek	6210100[redacted]010	PPWS	WWAC	•	PBCR		•		
Little Sandy Creek	6210100[redacted]030	PPWS	WWAC	•	PBCR		•		
Medicine Lodge River	6210100[redacted]010	PPWS	WWAC	•	PBCR		•		
Driftwood Creek	6210100[redacted]030	PPWS	WWAC	•	PBCR		•		
Turkey Creek	6210100[redacted]230	PPWS	WWAC	•	PBCR		•		
Greenleaf Creek	6210100[redacted]250	PPWS	WWAC	•	PBCR		•		
Yellowstone Creek	6210100[redacted]270	PPWS	WWAC	•	PBCR		•		
Hoover Ditch	6212[redacted]00		HLAC	•	SBCR		•		
Lake Ponca and Watershed	6212[redacted]20190, 6212[redacted]20200, 6212[redacted]20210, 6212[redacted]20220	PPWS	WWAC	•	PBCR		•	SWS	
Arkansas River upstream from Kaw Dam to Kansas State Line including Kaw Lake	62121[redacted]020, 62121[redacted]030, 62121[redacted]040	PPWS	WWAC	•	PBCR		•		
Beaver Creek	62121[redacted]050	PPWS	WWAC	•	PBCR		•		

APPENDIX A.7
Designated Beneficial Uses of Surface Waters
Water Quality Management Basin 7, Panhandle Region

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
North Canadian River upstream from and including Canton Lake (Crystal Beach Lake) to Hwy 50	720500010010, 720500010020, 720500010140_00	PPWS	WWAC	•	PBCR		•		
Cheyenne Creek	720500010040	PPWS	WWAC	•	PBCR		•		
Deep Creek	720500010060	PPWS	WWAC	•	PBCR		•		
Bent Creek	720500010070	PPWS	WWAC	•	PBCR		•		
Camp Creek	720500010080	PPWS	WWAC	•	PBCR		•		
Kizer Creek	720500010090	PPWS	WWAC	•	PBCR		•		
Cottonwood Creek	720500010110	PPWS	WWAC	•	PBCR		•		
Persimmon Creek	720500010150	PPWS	WWAC	•	PBCR		•		
North Persimmon Creek	720500010170	PPWS	WWAC	•	PBCR		•		
South Persimmon Creek	720500010180	PPWS	WWAC	•	PBCR		•		
Indian Creek	720500010200	PPWS	WWAC	•	PBCR		•		
North Canadian (Beaver) River upstream from Hwy. 50 to Optima Lake	720500010140_10, 720500010140_20, 720500020010, 720500020140, 720500020290, 720500020450		WWAC	•	PBCR		•		
Wolf Creek	720500020030, 720500030010	PPWS	WWAC	•	PBCR		•	SWS	
Fort Supply Reservoir	720500030020	PPWS	WWAC	•	PBCR		•	SWS	NLW
Sixteenmile Creek	720500030050	PPWS	WWAC	•	PBCR		•	SWS	
Little Wolf Creek	720500030070	PPWS	WWAC	•	PBCR		•	SWS	
Buzzard Creek	720500030080	PPWS	WWAC	•	PBCR		•	SWS	
Twentyfive mile Creek	720500030090	PPWS	WWAC	•	PBCR		•	SWS	
Willow Creek	720500030100	PPWS	WWAC	•	PBCR		•	SWS	
Rock Creek	720500030110	PPWS	WWAC	•	PBCR		•	SWS	
Otter Creek	720500020050	PPWS	WWAC	•	PBCR		•		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Clear Creek	720500020070	PPWS	WWAC	•	PBCR		•		
Kiowa Creek	720500020130	PPWS	WWAC	•	PBCR		•		
Camp Creek	720500020150	PPWS	WWAC	•	PBCR		•		
Sand Creek	720500020160	PPWS	WWAC	•	PBCR		•		
Coon Creek	720500020190	PPWS	WWAC	•	PBCR		•		
Mexico Creek	720500020210	PPWS	WWAC	•	PBCR		•		
Duck Pond Creek	720500020250	PPWS	WWAC	•	PBCR		•		
Camp Creek	720500020260	PPWS	WWAC	•	PBCR		•		
Clear Creek	720500020300	PPWS	WWAC	•	PBCR		•		
Cottonwood Creek	720500020310	PPWS	WWAC	•	PBCR		•		
South Fork of Clear Creek	720500020330	PPWS	WWAC	•	PBCR		•		
North Fork of Clear Creek	720500020340	PPWS	WWAC	•	PBCR		•		
Home Creek	720500020380	PPWS	WWAC	•	PBCR		•		
Sixmile Creek	720500020390	PPWS	WWAC	•	PBCR		•		
Willow Creek	720500020420	PPWS	WWAC	•	PBCR		•		
Sharp Creek	720500020430	PPWS	WWAC	•	PBCR		•		
Jackson Creek	720500020460	PPWS	WWAC	•	PBCR		•		
Bull Creek	720500020480	PPWS	WWAC	•	PBCR		•		
Fulton Creek	720500020510	PPWS	WWAC	•	PBCR		•		
Sand Creek	720500020520	PPWS	WWAC	•	PBCR		•		
Palo Duro Creek	720500020500	PPWS	WWAC	•	PBCR		•		
Chiquita Creek	720500020530	PPWS	WWAC	•	PBCR		•		
Hackberry Creek	720500020560	PPWS	WWAC	•	PBCR		•		
North Canadian (Beaver) River upstream from Optima Lake to Texas State Line	720510010020, 720510000100, 720510000190_00	PPWS	WWAC	•	PBCR		•		
Coldwater Creek	720510000040	PPWS	WWAC	•	PBCR		•		
Pony Creek	720510000090	PPWS	WWAC	•	PBCR		•		
Goff Creek	720510000110	PPWS	WWAC	•	PBCR		•		
Dry Sand Draw	720510000150								(4)
Tepee Creek	720510000200	PPWS	WWAC	•	PBCR		•		

APPENDIX B. AREAS WITH WATERS OF RECREATIONAL AND/OR ECOLOGICAL SIGNIFICANCE

The following tables list National and State parks, National forests, wildlife areas, wildlife management areas, wildlife refuges (Table 1) and areas which contain federally listed threatened or endangered species pursuant to the Federal Endangered Species Act (Table 2).

TABLE 1 - National and State Parks, National Forests, Wildlife Areas, Wildlife Management Areas, and Wildlife Refuges

PROTECTED AREA / WATER	WQM Segment
Adair State Park	121700
Alabaster Caverns State Park	620920
Altus-Lugert Wildlife Management Area	311510
Arrowhead State Park	220600
Atoka Wildlife Management Area	410400
Beaver River Wildlife Management Area	720500
Beaver State Park	720500
Beavers Bend Resort State Park	410200
Black Kettle National Grasslands	310840
Black Kettle Wildlife Management Area	310840
Black Mesa State Park/Preserve	720900
Blue River Wildlife Management Area	410600
Boggy Depot State Park	410400
Boiling Springs State Park	720500
Boswell State Park	410400
Broken Bow Wildlife Management Area	410210
Brushy Lake State Park	220200
Candy Creek Wildlife Management Area	121300
Canton Wildlife Management Area	720500
Cherokee State Parks I, II, III	121600
Cherokee Landing State Park	121700
Cherokee Wildlife Management Area	120400
Chickasaw National Recreation Area	310800
Chouteau Wildlife Management Area	121500
Cimarron Bluff Wildlife Management Area	620920
Cimarron Hills Wildlife Management Area	620920
Clayton Lake State Park	410300
Cookson Hills Wildlife Management Area	220200
Cooper Wildlife Management Area	720500
Copan Wildlife Management Area	121400
Cross Timbers Wildlife Management Area	311100

PROTECTED AREA / WATER	WQM Segment
Crowder Lake State Park	310830
Deep Fork National Wildlife Refuge	520700
Deep Fork Wildlife Management Area	520700
Disney/Little Blue State Parks	121600
Dripping Springs State Park (Okmulgee)	520700
Drummond Flats Wildlife Management Area	620910
Ellis Co. Wildlife Management Area	520600
Eufaula Wildlife Management Area	520500 520700 220600
Five Civilized Tribes State Park	121600
Fobb Bottom Wildlife Management Area	311100
Fort Cobb State Park	310830
Fort Cobb Wildlife Management Area	310830
Fort Gibson Wildlife Management Area	121600
Fort Supply Wildlife Management Area	720500
Foss State Park	310830
Gary Sherrer Wildlife Management Area	410310
Grady County Wildlife Management Area	310810
Great Plains State Park	621010
Great Salt Plains State Park	621010
Greenleaf State Park	120400
(Camp) Gruber Training Center	120400
Hackberry Flat Wildlife Management Area	311310
Heavener Runestone State Park	220100
Heyburn Wildlife Management Area	120400
Hickory Creek Wildlife Management Area	311100
Honobia Creek Wildlife Management Area	410210
Hugo Lake State Park	410300
Hugo Wildlife Management Area	410300
Hulah Wildlife Management Area	121400
James M. Collins Wildlife Management Area	220600
John Dahl Wildlife Management Area	621200
Kaw Wildlife Management Area	621210
Keystone State Park	620900
Keystone Wildlife Management Area	620900 621200
Lake Eucha State Park	121600
Lake Eufaula State Park	520700
Lake Murray State Park	311100

PROTECTED AREA / WATER	WQM Segment
Lake Texoma State Park	310000
Lake Wister State Park	220100
Lexington Wildlife Management Area	520600
Little River National Wildlife Refuge	410200
Little River State Park	520810
Little Sahara State Park	620920
Love Valley Wildlife Management Area	311100
McCurtain Co. Wilderness Area	410210
McGee Creek State Park	410400
McGee Creek Wildlife Management Area	410400
Mountain Park Wildlife Management Area	311500
Natural Falls State Park	121700
North Grand Lake State Park	121600
Okmulgee State Park	520700
Okmulgee Wildlife Management Area	520700
Oologah Wildlife Management Area	121510
Optima National Wildlife Refuge	720510
Optima Wildlife Management Area	720510
Osage Hills State Park	121400
Osage-Western Wall Rock Creek Wildlife Management Area	121400
Ouachita National Forest	410210 410310 220100
Ouachita Wildlife Management Area	220100
Ozark Plateau Wildlife Management Area	220200
Ozark Plateau National Wildlife Refuge	220200
Packsaddle Wildlife Management Area	520620
Pine Creek Wildlife Management Area	410201
Pushmataha Wildlife Management Area	410300
Quartz Mountain State Resort Park	311510
Raymond Gary State Park	410300
Red Rock Canyon State Park	310830
Redbud Valley Conservancy Area	121300
Rita Blanca National Grasslands	720510
Robbers Cave State Park	220100
Robbers Cave Wildlife Management Area	220100
Robert S. Kerr State Wildlife Management Area	220200
Roman Nose State Park	620910
Sandy Sanders Wildlife Management Area	311800

PROTECTED AREA / WATER	WQM Segment
Sequoyah National Wildlife Refuge	220200
Sequoyah State Park/Western Hills Resort Park	121600
Sheppard Point Recreational Area	120400
Shorb Wildlife Management Area	720500
Skiatook Wildlife Management Area	121300
Snowdale State Park	121600
Spavinaw State Park	121600
Spavinaw Hills Wildlife Management Area	121600
Sparrow Hawk Wildlife Management Area	121700
Spiro Mound State Park	220200
Stinchcomb Wildlife Refuge	520520
Stringtown Wildlife Management Area	410400
Sutton Wilderness Area	520810
Talimena State Park	410310
Tenkiller State Park	121700
Tenkiller Wildlife Management Area	121700
Texoma/Washita Arm Wildlife Management Area	310800
Three Rivers Wildlife Management Area	410210
Tishomingo National Wildlife Refuge	310800
Tishomingo Wildlife Management Unit	310800
Turkey Creek Recreational Area	410210
Wahshashe State Park	121400
Walnut Creek State Park	621200
Washita National Wildlife Refuge	310840
Waurika Wildlife Management Area	311210
Webbers Falls Wildlife Management Area	120400
Wichita Mountains National Wildlife Refuge	311310 311500
Yourman Wildlife Management Area	220600

Table 2 - Areas which contain federally listed Threatened (T) or Endangered (E) Species pursuant to the Federal Endangered Species Act (ESA)

PROTECTED AREA / WATER	WQM SEGMENT	FEDERALLY-LISTED SPECIES under the ESA
Black Fork Creek in Pushmataha County from its junction with Little River, upstream to Oklahoma Highway 144 crossing.	410210	Leopard Darter (T)
Canadian River, main channel from the state line in Ellis and Roger Mills Counties, downstream to the Indian Nation Turnpike bridge west, of Eufaula Reservoir	220600 520600 520610 520620	Arkansas River Shiner (T), including critical habitat
Cimarron River, main channel west of I-35 crossing in Logan County, upstream to the state line and including the portion in northern Beaver and Harper counties	620910 620920	Arkansas River Shiner (T), including critical habitat
East Fork of Glover River, main channel in McCurtain County from its junction with the West Fork of Glover River, upstream to 4 air miles north-northeast of the community of Bethel in Section 5, T2S, R24E, IM	410210	Leopard Darter (T), including critical habitat
Glover River, main channel in McCurtain County from Oklahoma Highway 3 crossing, upstream to the junction of the East Fork and West Fork of Glover River	410210	Leopard Darter (T), including critical habitat
Kiamichi River above Hugo Reservoir	410300	Scaleshell Mussel (E), Ouachita Rock Pocketbook mussel (E)
Little River, main channel in Pushmataha County from the mouth ~~to~~ of Cloudy Creek, upstream to the Pushmataha County Line	410210	Leopard Darter (T), including critical habitat; Ouachita Rock Pocketbook mussel (E); Rabbitsfoot mussel (T)
Little River below Pine Creek Reservoir	410200 410210	Ouachita Rock Pocketbook mussel (E); Rabbitsfoot mussel (T), including critical habitat; Winged Mapleleaf mussel (E)
Mountain Fork Creek (River), main channel in McCurtain County from mouth of Boktuklo Creek 6 air miles south-southwest of Smithville, upstream to the Oklahoma-Arkansas State line	410210	Leopard Darter (T), including critical habitat; Scaleshell Mussel (E)
Neosho (Grand) River above Miami	121600	Neosho Madtom (T), Neosho Mucket mussel (E)

PROTECTED AREA / WATER	WQM SEGMENT	FEDERALLY-LISTED SPECIES under the ESA
Salt Plains National Wildlife Refuge	621010	Whooping Crane (E), including critical habitat
West Fork of Glover River, main channel in-McCurtain County from its junction with the East Fork of Glover River, upstream to the community of Battiest	410210	Leopard Darter (T), including critical habitat
Verdigris River below Oologah Reservoir, downstream to Highway 266, Rogers County	121500	Rabbitsfoot mussel (T), including critical habitat
Illinois River, from Oklahoma-Arkansas State line, downstream to Barren Fork	121700	Neosho Mucket mussel (E), including critical habitat; Rabbitsfoot mussel (T)
Elk River, from Oklahoma-Arkansas State line, west to Buffalo Creek	121600	Neosho Mucket mussel (E), including critical habitat

Figure 1

APPENDIX D. CLASSIFICATIONS FOR GROUNDWATER IN OKLAHOMA

(a) **Vulnerability Levels of Hydrogeologic Basins.** Identification of vulnerability levels of hydrogeologic basins shall be as set forth in Table 1 of this Appendix. The boundaries of such hydrogeologic basins shall be as defined in the Oklahoma Water Resources Board publication number 99-1 entitled "Statewide Groundwater Vulnerability Map of Oklahoma".

(b) **Designations of "Nutrient-Vulnerable Groundwater".** Additional designations of certain hydrogeologic basins of groundwater as "nutrient-vulnerable groundwater" shall be as set forth in Table 2 of this Appendix. The boundaries of such "nutrient-vulnerable groundwater" hydrogeologic basins shall be as defined in the Oklahoma Water Resources Board publication number 99-1 entitled "Statewide Groundwater Vulnerability Map of Oklahoma".

Figure 2

Table 1. Identification of Vulnerability Levels of Hydrogeologic Basins

NAME OF HYDROGEOLOGIC BASIN		VULNERABILITY LEVEL
Alluvium and Terrace Deposits	of the North Fork of the Red River	Very High
	of the Salt Fork of the Arkansas River	Very High
	of the Red River	Very High
	of the Washita River	Very High
	Enid Isolated Terrace	Very High
	Canadian River	Very High
	of the Arkansas River	Very High
	of the Cimarron River	Very High
	of the North Canadian River	Very High
	Gerty Sand	High
	all other alluvium and terrace deposits	High-Very High
Bedrock	Boone	High
	Arbuckle-Simpson	High
	Blaine	High
	Elk City	High
	Cedar Hills	Moderate
	Antlers	Moderate
	Arbuckle-Timbered Hills	Moderate
	Arkansas Novaculite	Moderate
	Rush Springs	Moderate
	Vamoosa-Ada	Moderate
	Central Oklahoma	Moderate
	Ouachita Mountains	Low
	Ogallala	Low
	Cretaceous	Low
	Permian	Low
	Pennsylvanian	Low
	Mesozoic	Very Low
	Tishomingo Granite	Very Low
	Washita Igneous	Very Low

The vulnerability level may vary within each hydrogeologic basin, depending on site-specific hydrogeologic factors.

Figure 3

Table 2. Designations of Nutrient-Vulnerable Groundwater

NAME OF HYDROGEOLOGIC BASIN		VULNERABILITY LEVEL
Alluvium and Terrace Deposits	of the North Fork of the Red River	Very High
	of the Salt Fork of the Arkansas River	Very High
	of the Red River	Very High
	of the Washita River	Very High
	Enid Isolated Terrace	Very High
	Canadian River	Very High
	of the Arkansas River	Very High
	of the Cimarron River	Very High
	of the North Canadian River	Very High
	Gerty Sand	High
	all other alluvium and terrace deposits	High-Very High
Bedrock	Boone	High
	Arbuckle-Simpson	High
	Blaine	High
	Elk City	High

APPENDIX E. REQUIREMENTS FOR DEVELOPMENT OF SITE-SPECIFIC CRITERIA FOR CERTAIN PARAMETERS

A. General Applicability to Metals

Numerical criteria for metals to protect aquatic life are referenced in OAC 252:730-5-12(f)(6)(G) and Table 2 of Appendix G of this Chapter. For permitting purposes, such criteria for total recoverable Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Silver, and Zinc may be translated into dissolved metals criteria using the conversion factors referenced in OAC 252:730-5-12(f)(6)(H) and Table 3 of Appendix G. Criteria for parameters other than metals are also located in Table 2 of Appendix G.

An additional alternative which may be utilized for permitting purposes is to determine site-specific criteria from either the total recoverable or the dissolved criteria. However, federal regulations found at 40 CFR 122.45(c) require that NPDES permit limits must express metals concentrations as total recoverable, not dissolved. Therefore, if dissolved criteria for metals are implemented, they must be translated to site-specific total metals criteria to be used in the issuance of permit limits consistent with OAC 252:740.

The permitting authority may issue a total recoverable permit limit if statewide total recoverable criteria are appropriate in the permitting authority's view, and/or satisfactory in the permittee's view. If permit limits obtained using total recoverable criteria are unsatisfactory to the permittee, the permittee may attempt to obtain different permit limits by developing site-specific criteria in accordance with the provisions of this Appendix.

Implementation of site-specific criteria may reduce the margin of safety afforded by implementation of criteria per OAC 252:730-5-12(f)(6)(G) and Table 2 of Appendix G. Therefore, it is important that background concentration (which reduces the assimilation capacity of receiving water) be accounted for when site-specific criteria are implemented. Determination of background concentration requires a minimum of twelve samples collected over twelve months.

In order to develop permissible site-specific criteria, this Appendix must be followed to the satisfaction of the permitting authority and DEQ. A work plan explaining sampling and analysis procedures and quality assurance/quality control must be approved by DEQ prior to commencing the site-specific study. Upon completion, results must be submitted to DEQ and the permitting authority. Permittees are strongly encouraged to evaluate both the discharge and receiving water using clean sampling techniques.

Upon DEQ approval, site-specific criteria shall be promulgated as part of this Appendix following the next subsequent permanent rulemaking to amend OAC 252:730. These site-specific criteria supersede other numeric criteria promulgated elsewhere in this Chapter if it is shown to the satisfaction of DEQ that properties of the discharge or the circumstances surrounding the development of the site-specific criteria have not significantly changed since the promulgation of those site-specific criteria. Such criteria and the conditions around which they were derived, including but not limited to local environmental factors and effluent characteristics, shall be re-evaluated by the permit holder with each subsequent discharge permit renewal application or major

Figure 1

modification request to determine if any significant changes have affected the propriety of the site-specific criteria.

B. Site-Specific Criteria Applicability for NPDES Permit Activities

Oklahoma's site-specific criteria, except as otherwise specified, apply where the maximum concentration on the chronic regulatory mixing zone boundary occurs under critical conditions for receiving streams where $Q^* > 0.1823$ and on the acute regulatory mixing zone boundary for streams where $Q^* \leq 0.1823$. Critical conditions include regulatory effluent and receiving stream flows. OAC 252:740-5-2(C) requires that effluent flow, Q_e, be the highest monthly averaged discharge if sufficient data is available or the design flow otherwise. When chronic criteria implementation is appropriate, OAC 252:730-5-4 requires that the receiving stream flow, Q_u, be the larger of 7Q2 or 1 cfs. 1 cfs shall be used if the regulatory low flow cannot be determined. The discharger shall be required to determine the regulatory low flow per OAC 252:740-1-6 prior to the next permit cycle at which time the permit limits may be revised using the newly calculated Q_u (252:740-1-6(d)).

The maximum concentration on the mixing zone boundary may be simulated by mixing effluent and receiving water. Percent effluent in receiving water, PE, depends upon the dilution capacity of the stream and shall not exceed 100%. Dilution capacity, for streams, is represented as $Q^* = Q_e/Q_u$.

The following formulas shall be used to determine PE for receiving streams:
For streams with large dilution capacities ($Q^* <$ or equal to 0.1823), PE equals (194Q^*) divided by (1 + Q^*). PE for Q^* < or equal to 0.1823 shall not be less than 10%.

For streams with intermediate dilution capacities ($0.1823 < Q^* < 0.3333$), PE equals (100) divided by (6.17 - 15.51Q^*).

For streams with small dilution capacities (Q^* > or equal to 0.3333), PE equals 100%.

Site-specific criteria in Oklahoma lakes are also based on the maximum concentration on the mixing zone boundary. The following formulas shall be used to determine PE for lakes:

PE equals 4.96D, D > or equal to 3 feet where D is pipe diameter.

PE equals $23.8\sqrt{W}$, W > or equal to 3 feet where W is canal width.

As with streams, PE is always less than or equal to 100% for lakes.

If PE is calculated to be less than 10%, then effluent water effect ratios shall use PE = 10%.

"Waterbody-specific" criteria, such as segment-specific metals, may not have limitations on its applicability. Rather, it may be used a substitute for other applicable statewide criteria for the entire waterbody.

Figure 2

Site-specific criteria are dependent, in part, on specific properties of the effluent that influence the bioavailability and toxicity of metals. Substantial changes in the quality or quantity of the effluent may affect the resulting site-specific criterion. Therefore, if the existing permit contains requirements for toxicity reduction evaluations (TREs) or pollution prevention efforts, a site-specific criterion should not be developed until after these efforts have been completed. A new site-specific criteria study would likely have to be performed after those requirements are met because the characteristics of the effluent may significantly change (e.g., hardness, pH, TDS). In cases where the quality or quantity of an effluent changes, the burden rests on the permittee to demonstrate that the effluent characteristics are not significantly altered to a degree that would affect the validity of the outcomes of the original site-specific criteria study. A site-specific criterion may need to be re-evaluated periodically to reflect changes in the system that may alter the characteristics of either the receiving water or effluent.

C. Site-Specific Criteria Applicability for Activities Not Related to NPDES Permits

In certain circumstances, statewide numeric criteria for parameters other than metals may be replaced by segment-specific criteria for specific parameters applicable to just one waterbody. These criteria will be applicable to any point in the waterbody. These criteria must be shown to be protective of native aquatic life through procedures similar to those used in the WER procedures detailed here and in DEQ approved technical guidance.

Development of segment-specific criteria for minerals should follow DEQ approved technical guidance. Certain cases may require additional data or justification, but this document should provide sufficient basic guidance for the development of alternative criteria. Development of site-specific or segment-specific criteria for parameters for other than metals or minerals and lacking specific guidance documents will require extensive coordination with technical staff from DEQ and the permitting authority.

D. Sampling Procedures

General guidance for field sampling can be found in DEQ approved technical guidance. The permittee shall collect both receiving water and effluent, and mix them together to obtain PE. Ambient water collections shall be representative of low stream flow events and collected at a location unaffected by the discharge being permitted. Twenty-four (24) hour composite effluent samples representative of normal operation shall be collected at the outfall such that any periodic toxic discharges are captured and average effluent conditions are represented. Outfalls may be combined proportional to flow if in close proximity. Clean sampling techniques shall be used where possible and samples shall be analyzed by an Oklahoma certified laboratory utilizing generally accepted methods. Dilution water must be made in accordance with approved methods. The pH, hardness, conductivity and alkalinity must be similar to that of the receiving water.

Site-specific criteria development for lakes should employ DEQ approved sampling procedures. Deviation from approved procedures and techniques must be justified to DEQ and the permitting authority prior to initiation of the sampling. Excursions from these techniques that occur as a result of on-site conditions must be reported to DEQ and the permitting authority as soon as possible. Implications of these deviations on the data quality and their appropriateness to the outcomes of

Figure 3

the study must be reviewed and agreed upon by DEQ and the permitting authority prior to their use in the derivation of any criteria.

For systems lacking NPDES permitted dischargers, sampling procedures for determining background concentration should follow DEQ approved technical guidance for characterizing local conditions.

E. Site-Specific Criteria Development Methods for Metals:

A proposal based on one or more of the site-specific criteria development options provided in this appendix may be submitted to DEQ for potential adoption. Prior to the initiation of any work toward development of a site-specific criterion, interested parties must coordinate with DEQ technical staff. Such coordination will require, at a minimum, a workplan addressing project goals, sample collection and testing methods, quality assurance measures, and output schedules. This workplan will need to be reviewed and approved by DEQ and the permitting authority prior to initiation of any work.

The methods provided in this appendix are to be used to develop site-specific metals criteria as an alternative to utilizing the total recoverable criteria referenced in OAC 252:730-5-12(f)(6)(G) and Table 2 of Appendix G. The results of a site-specific criteria development study will be adopted into Chapter 730: Appendix E, only if the criteria development study is shown to be scientifically defensible and approved by DEQ and EPA.

1. Method 1: Copper Biotic Ligand Model

The BLM for copper uses inputs for ten water chemistry parameters (pH, dissolved organic carbon, calcium, magnesium, sodium, sulfate, potassium, chloride, alkalinity, and temperature) to determine site-specific dissolved copper criteria that are representative of toxicity to aquatic life. This method for the calculation of site-specific criteria reflects the best available science for determining biologically available copper. Further information about the model can be found in the document "Aquatic Life Ambient Freshwater Quality Criteria - Copper 2007 Revision" (EPA-822-R-07-001).

2. Method 2: Water Effects Ratio (WER)

The permittee may obtain a site-specific water effects ratio (WER) to translate a statewide total criterion to a site-specific total criterion if the existing permit does not contain requirements for toxicity reduction evaluations or implementation of pollution prevention efforts. Toxicity tests using both laboratory dilution water and PE water must be performed. PE water is obtained by first determining the amount of water required for the toxicity test (e.g. 1L). Since PE = $100V_e/(V_e + V_r)$, where V_e and V_r are volumes of effluent and receiving water required for the toxicity test, respectively, then V_e = PE/100 (L). If PE = 25%, then V_e = 0.25L. Given that $V_e + V_r$ = 1 (L) in this example, V_r = 1 - PE/100, or 0.75L.

Toxicity tests using two different species are required. Acute 48-hour static renewal definitive toxicity tests shall be performed by the permittee in accordance with approved methods for

Figure 4

acute testing identified above. LC_{50} tests shall be used to determine WERs for both acute and chronic criteria. Toxicity tests require adding metal to both PE and dilution water. It shall not be acceptable to estimate metal concentrations by measuring the amount added. Total recoverable concentrations must be used to obtain LC_{50} values for both test species for PE and laboratory water in Method 2.

Multiple WERs must be performed. At a minimum, three tests in three different seasons must be performed for two test species. WER is computed as $LC_{50dilution}/LC_{50PE}$. A geometric mean of the WERs is the final water effect ratio, FWER. A minimum of four WERs must be used in the computation of FWER. An explanation of any WERs obtained but not used in computation of FWER must be provided to the permitting authority and DEQ. The total criterion specified in Table 2 of Appendix G is divided by FWER to obtain a site-specific total criterion. Background concentration must be determined to use with the site-specific criterion to develop permit limits.

3. Method 3: Dissolved to Total Fraction

Dissolved and total recoverable concentrations must be obtained to determine a dissolved to total fraction. Samples must be taken from the effluent, receiving water and PE water. The dissolved to total fraction must be successfully computed a minimum of ten times.

The dissolved to total fraction is defined as $f_i = C_{Di}/C_{Ti}$, where C_{Di} is the dissolved concentration in the ith PE sample, and C_{Ti} is the total recoverable concentration. The dissolved fraction for the site shall be determined as the geometric mean for the n samples.

$$\therefore f = \exp\left[\sum_{i=1}^{n} [\ln(f_i)]/n\right]$$

To develop a site-specific criterion from the dissolved fraction alone, divide the dissolved criterion determined from Table 3 of Appendix G by f. The result is a site-specific total recoverable criterion.

4. Method 4: Combining f and FWER

The most definitive method of developing a site-specific criterion is to modify a dissolved criterion to account for both the fraction of the concentration biologically available and the difference between the toxicity of the metal in the laboratory dilution water and in PE water. In order to perform method 4, WERs must be obtained using dissolved concentrations. This accounts for differences between the toxicity of the dissolved metal in laboratory dilution water and dissolved metal in PE water.

Figure 5

A translator, T, is obtained as the product of f and dissolved FWER. T is divided into the dissolved criterion determined from Table 3 of Appendix G to obtain a site-specific total recoverable criterion.

5. Method 5: Selenium BAF Fish Tissue Study

Site-specific criteria for selenium shall be developed using a BAF study approvable by DEQ. Prior to the start of any study, the workplan and appropriate quality assurance project plan need to be approved by DEQ. A site-specific BAF study requires both fish tissue (muscle or whole-body) and water column data.

6. Method 6: Multiple Linear Regression Model

A Multiple Linear Regression model, or other scientifically defensible criteria development model, may be utilized to develop site-specific criteria for copper. The entity requesting the site-specific criterion must provide sufficient justification for the use of the model subject to DEQ's discretion.

F. Site-Specific Criteria for Metals Which Have Been Developed for Particular Waterbodies

Subsequent to the initial promulgation of this Appendix, there have been cases in which interested persons have developed site-specific criteria for particular discharges or other circumstances in accordance with this Appendix. Such site-specific criteria are set forth below. These site-specific criteria shall be interpreted according to the following:

C_{ast} = acute statewide total criterion
C_{cst} = chronic statewide total criterion
C_{asd} = acute statewide dissolved criterion
C_{csd} = chronic statewide dissolved criterion
S_{ast} = acute site-specific total criterion
S_{cst} = chronic site-specific total criterion
$FWER_t$ = final total water effects ratio
$FWER_d$ = final dissolved water effect ratio
f = dissolved to total fraction

Acute site-specific criteria are appropriate for large streams and chronic site-specific criteria are appropriate for small and medium size streams.

Methods Allowed in Appendix E:

Method 2

$$S_{ast} = C_{ast}/FWER_t$$
$$S_{cst} = C_{cst}/FWER_t$$

Figure 6

Method 3

$S_{ast} = C_{csd}/f$

$S_{cst} = C_{csd}/f$

Method 4

$S_{ast} = C_{csd}/(fxFWER_d)$

$S_{cst} = C_{csd}/(fxFWER_d)$

1. City of Blackwell Discharge to Chikaskia River (OK621100000010_10): Cadmium

A site-specific criteria modification study has been satisfactorily completed for cadmium for the City of Blackwell.

$FWER_t = 0.0989$
$FWER_d = 0.2905$
$f = 0.18$

The results of the study allow any of the four following criteria to be utilized.

$C_{cst} = 0.51$ µg/L	Statewide criterion
$S_{cst} = 5.1$ µg/L	Method 2
$S_{cst} = 2.45$ µg/L	Method 3
$S_{cst} = 8.45$ µg/L	Method 4

The discharger may choose the above criterion it wishes to use for discharge permit calculations.

2. AES Shady Point Discharge to Poteau River (OK220100010010_20): Copper

A site-specific criteria modification study has been satisfactorily completed for copper for AES Shady Point.

$FWER_t = 0.0876$
$FWER_d = 0.1306$
$f = 0.5936$

The results of the study allow any of the four following criteria to be utilized.

$C_{cst} = 9.50$ µg/L	Statewide criterion
$S_{cst} = 65$ µg/L	Method 2
$S_{cst} = 15.3$ µg/L	Method 3
$S_{cst} = 74$ µg/L	Method 4

The discharger may choose the above criterion it wishes to use for discharge permit calculations.

Figure 7

3. City of Idabel Discharge to Mud Creek (OK410200010210_00) at SW 1/4 of SW 1/4 of SW 1/4 of Section 15, T8S, R24E, IM, McCurtain County, Oklahoma (Latitude 33° 51' 14.621" North, Longitude 94° 47' 22.200" West)

A. Lead

A site-specific criteria modification study has been satisfactorily completed for lead for the City of Idabel.

$FWER_t = 2.5912$
$FWER_d = 0.2914$
$f = 0.7157$

The results of the study allow any of the four following criteria to be utilized.

$C_{cst} = 2.3492$ µg/L	Statewide criterion
$S_{cst} = 0.9066$ µg/L	Method 2
$S_{cst} = 2.7104$ µg/L	Method 3
$S_{cst} = 9.3036$ µg/L	Method 4

The discharger may choose the above criterion it wishes to use for discharge permit calculations.

B. Nickel

A site-specific criteria modification study has been satisfactorily completed for nickel for the City of Idabel.

$FWER_t = 1.1244$
$FWER_d = 0.9735$
$f = 0.5798$

The results of the study allow any of the four following criteria to be utilized.

$C_{cst} = 46.82$ µg/L	Statewide criterion
$S_{cst} = 41.6$ µg/L	Method 2
$S_{cst} = 80.50$ µg/L	Method 3
$S_{cst} = 82.69$ µg/L	Method 4

The discharger may choose the above criterion it wishes to use for discharge permit calculations.

C. Zinc

A site-specific criteria modification study has been satisfactorily completed for zinc for the City of Idabel.

$FWER_t = 0.6714$

Figure 8

$FWER_d = 0.7178$
$f = 0.6213$

The results of the study allow any of the four following criteria to be utilized.

$C_{ast} = 107.52$ µg/L	Statewide criterion
$S_{ast} = 160.14$ µg/L	Method 2
$S_{ast} = 169.24$ µg/L	Method 3
$S_{ast} = 235.78$ µg/L	Method 4

The discharger may choose the above criterion it wishes to use for discharge permit calculations.

4. Oklahoma Gas & Electric Mustang Generating Station Discharge to North Canadian River (OK520520000250_00) at NE 1/4 of NE 1/4 of SE 1/4 of Section 36, T12N, R5W, IM, Canadian County, Oklahoma: Copper

A site-specific criteria modification study has been satisfactorily completed for copper for the Oklahoma Gas & Electric Mustang Generating Station discharge to the North Canadian River.

$FWER_t = 0.053$
$FWER_d = 0.224$
$f = 0.368$ (0.37)

The results of the study allow any of the four following criteria to be utilized. All criteria are calculated at an in-stream hardness of 334 mg/L.

$C_{cst} = 35.9$ µg/L	Statewide criterion
$S_{cst} = 677$ µg/L	Method 2
$S_{cst} = 94.0$ µg/L	Method 3
$S_{cst} = 416.0$ µg/L	Method 4 (Recommended in OG&E study)

$C_{ast} = 59.8$ µg/L	Statewide criterion
$S_{ast} = 1{,}128$ µg/L	Method 2
$S_{ast} = 156.0$ µg/L	Method 3
$S_{ast} = 692.0$ µg/L	Method 4 (Recommended in OG&E study)

The discharger may choose the above criterion it wishes to use for discharge permit calculations.

5. City of Poteau Discharge to Poteau River (OK220200010010_40) at SE 1/4 of NW 1/4 of Section 30, T7N, R26E, IM, LeFlore County, Oklahoma

A. Copper

A site-specific criteria modification study has been satisfactorily completed for copper for the City of Poteau discharge to the Poteau River.

figure 9

$FWER_t = 0.1850$
$FWER_d = 0.1765$
$f = 0.2969$

The results of the study allow any of the four following criteria to be utilized. All criteria are calculated at an in-stream hardness of 25.75 mg/L.

$C_{cst} = 4.02$ µg/L Statewide criterion
$S_{cst} = 21.73$ µg/L Method 2
$S_{cst} = 13.0$ µg/L Method 3
$S_{cst} = 73.66$ µg/L Method 4 (Recommended in Poteau study)

$C_{ast} = 5.35$ µg/L Statewide criterion
$S_{ast} = 28.92$ µg/L Method 2
$S_{ast} = 17.31$ µg/L Method 3
$S_{ast} = 98.09$ µg/L Method 4(Recommended in Poteau study)

The discharger may choose the above criterion it wishes to use for discharge permit calculations.

B. Zinc

A site-specific criteria modification study has been satisfactorily completed for zinc for the City of Poteau discharge to the Poteau River.

$FWER_t = 0.4040$
$FWER_d = 0.4276$

The results of the study allow any of the four following criteria to be utilized. All criteria are calculated at an in-stream hardness of 25.75 mg/L. However, method 2was deemed sufficient to provide relief from a zinc limit in the discharge permit.

$C_{ast} = 37.95$ µg/L Statewide criterion
$S_{ast} = 93.95$ µg/L Method 2 (Recommended in Poteau study)

6. City of Heavener Discharge to Morris Creek (OK220100020100_00) at SE 1/4 of NW 1/4 of Section 30, T7N, R26E, IM, LeFlore County, Oklahoma: Copper

A site-specific criteria modification study has been satisfactorily completed for copper for the City of Heavener discharge to Morris Creek.

$FWER_t = 0.1294$
$FWER_d = 0.1216$
$f = 0.8595$

Figure 10

The results of the study allow any of the four following criteria to be utilized. All criteria are calculated at an in-stream hardness of 25.75 mg/L.

C_{cst} = 4.02 µg/L Statewide criterion
S_{cst} = 31.07 µg/L Method 2
S_{cst} = 4.68 µg/L Method 3
S_{cst} = 38.50 µg/L Method 4 (Recommended in Morris Ck. study)

C_{ast} = 5.35 µg/L Statewide criterion
S_{ast} = 41.34 µg/L Method 2
S_{ast} = 6.22 µg/L Method 3
S_{ast} = 51.19 µg/L Method 4 (Recommended in Morris Ck. study)

The discharger may choose the above criterion it wishes to use for discharge permit calculations.

7. City of Broken Bow to Unnamed Tributary of Yanubbe Creek (OK410200010155_00) at SE 1/4 of SE 1/4 of SE 1/4 of Section 18, T6S, R24E, IM, McCurtain County, Oklahoma (Latitude 34° 01' 37.165" North, Longitude 94° 43' 22.270" West)

A. Copper

A site-specific criteria modification study has been satisfactorily completed for copper for the City of Broken Bow Public Works Authority discharge to Unnamed Tributary of Yanubbe Creek. All criteria are calculated at an in-stream hardness of 34.9 mg/L.

$FWER_t$ = 0.0995
$FWER_d$ = 0.1253
f = 0.6544

The results of the study allow any of the four following criteria to be utilized

C_{cst} = 5.20 µg/L Statewide criterion
S_{cst} = 52.28 µg/L Method 2
S_{cst} = 7.628 µg/L Method 3
S_{cst} = 60.87 µg/L Method 4

C_{ast} = 7.12 µg/L Statewide criterion
S_{ast} = 71.58 µg/L Method 2
S_{ast} = 10.45 µg/L Method 3
S_{ast} = 83.34 µg/L Method 4

B. Zinc

A site-specific criteria modification study has been satisfactorily completed for zinc for the City of Broken Bow Public Works Authority discharge to Unnamed Tributary of Yanubbe Creek. All criteria are calculated at an in-stream hardness of 34.9 mg/L.

Figure 11

$FWER_t = 0.6312$
$FWER_d = 0.7502$
$f = 0.7343$

$C_{ast} = 49.11$ µg/L	Statewide criterion
$S_{ast} = 77.77$ µg/L	Method 2
$S_{ast} = 65.32$ µg/L	Method 3
$S_{ast} = 86.87$ µg/L	Method 4

G. Site-Specific Criteria for Parameters Other Than Metals

The purpose of site-specific criteria investigations may not necessarily be intended to prevent toxicity as a result of the substance of concern. Various substances may produce various types of adverse impacts in the environment. For example, minerals may produce a toxic response due to ionic imbalance while nutrients may produce various impacts depending upon algal response to various conditions within the system. Examples of such systems include those where there may be nitrogen, phosphorus or light limitations. Resulting site-specific criteria may involve seasonal, spatial or other limitations as well as specific numeric limitations.
"Waterbody-specific" criteria, such as certain nutrients in waters designated SWS or SWS-R, or segment-specific metals, may not have limitations on its applicability. Rather, it may be used a substitute for other applicable statewide criteria.

Development of site-specific criteria for minerals should follow approved methods. Certain cases may require additional data or justification, but approved guidance documents should provide sufficient basic guidance for the development of site-specific criteria.

Development of site-specific criteria for parameters other than metals or minerals and lacking specific guidance documents will require extensive coordination with technical staff from DEQ and the permitting authority. Such coordination will require, at a minimum, a workplan addressing project goals, collection and testing methods, quality assurance measures and output schedules. This workplan will need to be reviewed and approved by DEQ and the permitting authority prior to initiation of any work.

Those instances in which site-specific phosphorus or nitrogen criteria may be promulgated pursuant to OAC 252:730-5-10(7) titled "Chlorophyll-a numerical criterion for certain waters" will be limited to those waterbodies that have been shown to be impaired by nutrients and a numeric nutrient criterion has been determined to be the best way to affect reductions in the target nutrient. Such a demonstration will follow procedures outlined in OAC 252:740-15-10. Criteria may be derived from the result of "Clean Lake Studies" or other site-specific investigations performed by an agency of competent authority or a designee.

In cases where toxicity may be a concern due to the parameter in question, toxicity testing using two different species is required. Such testing should comply with the procedures detailed in OAC 252:606 and approved guidance. Exceptions to or deviations from these protocols should be

Figure 12

brought to the attention of DEQ and the permitting authority prior to completion of the testing and thoroughly detailed in the final report.

H. Site-Specific Criteria for Nutrients Which Have Been Developed for Particular Waterbodies
(reserved)

I. Site-Specific Criteria for Other Parameters Which Have Been Developed for Particular Waterbodies

1. **PSO Comanche Power Station discharge to a tributary of Ninemile Creek (OK311300020032_00) and Ninemile Creek (OK311300020030_00) upstream of the confluence with East Cache Creek (OK31130020010_00) at Section 4, T1S, R11W, IM, Comanche County.**

   A site-specific mineral study has been satisfactorily completed on these waterbodies indicating that the actual agricultural uses of the waterbody are capable of tolerating more mineral input than currently allowed by the default values in Appendix F for segment 311300. The following criteria are allowed for the protection of the actual agricultural usage of the water.

	Total Dissolved Solids	Sulfate	Chloride
Yearly mean standard (mg/L)	1,680	338	499
Sample standard (mg/L)	2,100	423	624

Figure 13

APPENDIX F. STATISTICAL VALUES OF THE HISTORICAL DATA FOR MINERAL CONSTITUENTS OF WATER QUALITY (BEGINNING OCTOBER 1976 ENDING SEPTEMBER 1983, EXCEPT AS INDICATED)

The numbers in the "Segment" column on the far left of this Appendix refer to "WQM Segment" numbers which are described in the Introduction to Appendix A of this Chapter. Wherever a segment appears that is identified with an eight-digit segment number, such segment is a sub-watershed of the preceding six-digit WQM Segment. Details of the locations of these sub-watersheds are available from the Department of Environmental Quality. The numbers in the "Monitoring Station" column refer to the abbreviated numbers of the monitoring stations administered by the U.S. Geological Survey ("USGS"); to change an abbreviated number to the complete number used by the USGS, add the prefix digits "07" and add suffix digits of zeroes in order to produce an eight-digit number. In some cases, "Ambient Trend Monitoring" ("ATM") stations were used from streams where no USGS gauge was located. Numbering of these ATM stations complied with the USGS numbering format. The ATM station data have been considered for all stations, including USGS gauges, where available and have been incorporated into the results for that segment where appropriate. The letters "AVG" in the "Monitoring Station" column indicate an average wherever there are multiple monitoring stations in a WQM Segment; the numbers to the right of the "AVG" represent the averages of the historical data for the various monitoring stations.

SEGMENT	MONITORING STATION	CHLORIDE (mg/L)		SULFATE (mg/L)		TOTAL DISSOLVED SOLIDS AT 180°C (mg/L)	
		YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD
120400	1945	492	703	116	153	726	998
	1946	304	393	91	115		
	AVG	**398**	**548**	**104**	**134**	726	998
120410	16557	629	810	140	172	1,419	1,782
120420	1644	743	971	143	172	1,608	2,033
	1645	694	878	150	183	1,482	1,827
	(1)					1,398	1,743
	AVG	**719**	**925**	**147**	**178**	**1,496**	**1,868**
121300	1765	89	123	30	41	334	396
	17805	93	119	60	76		
	1784	85	109	60	78		
	(1)					440	544
	AVG	**89**	**117**	**50**	**65**	**387**	**470**
121400	1730	40	55	27	35	264	313
	1742	123	172	32	45	457	590

Figure 2

SEGMENT	MONITORING STATION	CHLORIDE (mg/L)		SULFATE (mg/L)		TOTAL DISSOLVED SOLIDS AT 180°C (mg/L)	
		YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD
	1755	131	177	42	56	457	576
	(1)					461	585
	AVG	**98**	**135**	**34**	**45**	**410**	**516**
121500	1714	38	51	86	129	367	512
	1760	74	102	69	93		
	17862	62	81	64	80	332	399
	1788	56	72	67	90		
	1790	70	96	58	76		
	AVG	**60**	**80**	**69**	**94**	**350**	**456**
121510	1710	65	88	88	135	326	411
121600	1850	29	41	126	183	442	547
	1880	19	27	62	82	283	324
	1905	15	20	43	57	184	205
	19122	18	24	29	48		
	1915	29	43	53	73	176	195
	19155	23	34	60	88	241	287
	1935	16	20	43	50	189	207
	AVG	**21**	**30**	**59**	**83**	**253**	**294**
121610	19156	100	148	121	162		
121700	1955	17	23	20	27	184	230
	1960	19	26	23	32	171	219
	1965	17	25	26	37	158	184
	1970	13	19	22	31	133	156
	1980	37	56	35	57	160	195
	AVG	21	30	25	37	161	197
220100	2485	13	19	21	29	104	125
	24944	41	67	48	69	171	228
	AVG	**27**	**43**	**35**	**49**	**138**	**177**
220200	2464	225	295	71	87	534	644
	(1)					490	596
	AVG	**225**	**295**	**71**	**87**	**512**	**620**
220300	2450	83	96	52	60	320	357
220600	2315	346	456	244	335	1,062	1,328

Figure 3

SEGMENT	MONITORING STATION	CHLORIDE (mg/L)		SULFATE (mg/L)		TOTAL DISSOLVED SOLIDS AT 180°C (mg/L)	
		YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD
	2316	63	109	70	112		
	2317	281	371	232	317		
	(1)					612	777
	AVG	**230**	**312**	**182**	**255**	**837**	**1,053**
310800	3310	134	184	521	702	1,187	1,524
310810	3281	109	142	788	983		
	3285	144	198	721	933	3,008	4,409
	AVG	**127**	**170**	**755**	**958**	**3,008**	**4,409**
310820							
310830	3244	92	131	1,196	1,461	2,010	2,396
	3255	137	176	1,190	1,463	2,237	2,733
	3265	247	387	1,004	1,287	2,457	3,157
	AVG	**159**	**231**	**1,130**	**1,404**	**2,235**	**2,762**
310840	3242	115	173	1,281	1,654	2,368	3,042
311100	3155	1,797	2,464	866	1,161	4,746	6,290
	3157	310	451	150	237		
	3159	328	447	172	253		
	3160	1,594	2,175	751	1,013	3,956	5,154
	AVG	**1,007**	**1,384**	**485**	**666**	**4,351**	**5,722**
311200	31272	2,112	2,834	948	1,231		
	3135	142	195	221	307	904	1,137
	3136	395	561	266	376		
	AVG	**883**	**1,197**	**478**	**638**	**904**	**1,137**
311210	3134	69	93	344	478		
311300	3090	65	92	135	173		
	3110	81	102	82	102	472	560
	AVG	**73**	**97**	**109**	**138**	**472**	**560**
311300 trib to Nine Mile Ck[2]		231	262	128	145	809	879

Figure 4

SEGMENT	MONITORING STATION	CHLORIDE (mg/L)		SULFATE (mg/L)		TOTAL DISSOLVED SOLIDS AT 180°C (mg/L)	
		YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD
311300 Nine Mile Ck[2]		232	279	124	150	830	950
311500	3045	243	353	781	1,040	1,777	2,284
311310	3112	16	23	21	27	126	151
	311505	357	547	136	209		
	AVG	**187**	**285**	**79**	**118**	**126**	**151**
311510	3015	2,328	3,924	1,413	1,869		
	3030	5,612	8,948	1,308	1,703		
	(1)					2,334	2,815
	AVG	**3,970**	**6,436**	**1,361**	**1,786**	**2,334**	**2,815**
311600	3005	645	963	1,720	2,114		
	30111	690	856	1,451	1,755	3,331	3,969
	AVG	**668**	**910**	**1,586**	**1,935**	**3,331**	**3,969**
311800	3035	9,875	13,569	1,939	2,401		
	(1)					37,568	58,087
	AVG	**9,875**	**13,569**	**1,939**	**2,401**	**37,568**	**58,087**
410100	33682	285	397	200	277	913	1,220
410200	3385	42	64	20	28	125	165
410210	3371	10	14	17	22	62	81
	3379	12	17	19	25	69	89
	AVG	**11**	**16**	**18**	**24**	**66**	**85**
410300	3362	16	24	21	28	1,174	2,023
410310	3357	7	10	13	18	31	38
410400	3340	38	53	44	65	235	283
	3350	106	149	59	90	427	537
	(1)					114	172
	AVG	**72**	**101**	**52**	**78**	**259**	**331**
410400 Red River Near Hugo[3]	3355	388	503	345	478	1,080	1,405
410600	3325	34	55	31	44	312	357

Figure 5

SEGMENT	MONITORING STATION	CHLORIDE (mg/L)		SULFATE (mg/L)		TOTAL DISSOLVED SOLIDS AT 180°C (mg/L)	
		YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD
410700							
520500	2420	349	451	168	217	1,030	1,284
	2422	319	409	141	189		
	AVG	**334**	**430**	**155**	**203**	**1,030**	**1,284**
520510	2417	305	395	148	192		
520520	2399	219	261	260	317		
	24155	451	620	188	239	1,196	1,523
	AVG	**335**	**441**	**224**	**278**	**1,196**	**1,523**
520530	2390	270	318	369	469	1,156	1,240
	2395	267	337	475	640	1,300	1,552
	(1)					1,145	1,399
	AVG	**269**	**328**	**422**	**555**	**1,200**	**1,397**
520600	2294	259	342	309	414		
520610	2292	255	353	433	570	1,114	1,410
520620	2285	336	488	568	724	1,458	1,849
520700	2424	211	276	127	175		
	2425	219	291	117	165		
	2435	222	292	98	134	721	926
	AVG	**217**	**286**	**114**	**158**	**721**	**926**
520710	24235	253	342	159	207	841	1,085
520800	2300	104	130	50	73	486	581
	2310	765	1,065	75	115	1,538	2,063
	(1)					1,551	2,083
	AVG	**435**	**598**	**63**	**94**	**1,192**	**1,576**
520810	(1)					265	294
620900	1610	4,233	5,650	519	650	7,941	10,357
620910	1584	12,076	17,506	1,670	2,171	18,760	26,005
	1591	7,464	10,162	729	921	14,809	19,580
	15972	174	218	255	304	901	1,072
	15975	182	233	242	301	879	1,091
	1600	4,813	6,431	633	799		
	1605	597	864	548	744	1,834	2,391
	AVG	**4218**	**5,902**	**680**	**873**	**7,437**	**10,028**

Figure 6

SEGMENT	MONITORING STATION	CHLORIDE (mg/L)		SULFATE (mg/L)		TOTAL DISSOLVED SOLIDS AT 180°C (mg/L)	
		YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD
620920	15795	8,436	12,508	1,141	1,740	16,954	25,129
	15796	423	604	2,058	2,616	3,752	4,781
	AVG	**4,430**	**6,556**	**1,600**	**2,178**	**10,353**	**14,955**
621000	1505	5,658	8,174	706	918	10,577	14,972
	15226	1,089	1,473	283	360		
	AVG	**3,374**	**4,824**	**495**	**639**	**10,577**	**14,972**
621010	14845	288	388	936	1,173	1,886	2,306
621100	1520	388	586	175	247	1,091	1,417
621200	14814	252	321	115	157		
	1525	536	738	144	185	1,111	1,405
	1530	544	811	45	65		
	AVG	**444**	**623**	**101**	**136**	**1,111**	**1,405**
621210	(1)	482	728	132	182		
720500	2340	1,455	1,893	890	1,192	3,847	4,938
	2375	450	562	597	785	1,878	2,359
	2380	300	379	681	955	1,602	1,732
	AVG	**735**	**945**	**723**	**977**	**2,442**	**3,010**
720900							

Notes:

(1) Indicates data obtained from Appendix B, WQS 1982

(2) Data collected from June 1999 through September 2000

(3) Data collected from November 1959 through December 1982 AND November 1998 through August 2000

Figure 1

APPENDIX G. NUMERICAL CRITERIA TO PROTECT BENEFICIAL USES

(a) **Introduction.** This Appendix prescribes numerical limits for certain criteria which are necessary to protect beneficial uses as and wherever designated. Table 1 is a chart that states the numerical limits to protect the beneficial use and subcategories of Fish and Wildlife Propagation for the single parameter of dissolved oxygen as set forth in OAC 252:730-5-12(f)(1). The latter limits vary depending upon several factors including the pertinent subcategory or fishery class, the time of the year, and the seasonal temperature. Table 2 prescribes the numerical limits for certain substances or parameters in order to protect beneficial uses and subcategories as set forth in OAC 252:730-5-10(1), 252:730-5-10(6), 252:730-5-12(f)(6), and 252:730-5-20. The numerical limits may vary from one beneficial use or subcategory to another according to how the criteria are required by OAC 252:730 or OAC 252:740 to be implemented.

For the Fish and Wildlife Propagation criteria in Table 2, unless otherwise noted, the acute criterion is the Criterion Maximum Concentration (CMC) applied as a one-hour average concentration, and the chronic criterion is the Criterion Continuous Concentration (CCC) applied as a 96-hour (4 days) average concentration. The CMC and CCC criteria may not be exceeded more than once every three years on the average. Footnotes 1 and 2, associated with 14 pollutants in Table 2, provide exceptions to the duration and frequency components described in this paragraph.

Table 3 is a chart that sets forth conversion factors that can be used to determine Fish and Wildlife Propagation criteria for dissolved metals (where not already expressed as dissolved criteria in Table 2) in order to protect the beneficial use of Fish and Wildlife Propagation and all its subcategories as set forth in OAC 252:730-5-12(f)(6)(H).

(b) **Explanations for abbreviations and certain terms in Tables.**

(1) "CAS #" refers to a parameter's Chemical Abstract Service registry number. Each of these numbers is a unique identifier of a particular compound with a particular structure; the number provides additional and further specificity for the parameter in question than simply identifying it by a systematic, generic, proprietary, or [trivial] name. The CAS number has no particular chemical significance.

(2) Equations are prescribed for those substances the toxicity of which varies with water chemistry.

Figure 2

TABLE 1.

Dissolved Oxygen Criteria to Protect Fish and Wildlife Propagation and All Subcategories Thereof [1]

SUBCATEGORY OF FISH AND WILDLIFE PROPAGATION (FISHERY CLASS)	DATES APPLICABLE	DO CRITERIA[4] (MINIMUM) (mg/L)	SEASONAL TEMPERATURE (°C)
Habitat Limited Aquatic Community			
Early Life Stages	4/1 - 6/15	4.0	25[3]
Other Life Stages			
Summer Conditions	6/16 - 10/15	3.0	32
Winter Conditions	10/16 - 3/31	3.0	18
Warm Water Aquatic Community[5]			
Early Life Stages	4/1 - 6/15	6.0[2]	25[3]
Other Life Stages			
Summer Conditions	6/16 - 10/15	5.0[2]	32
Winter Conditions	10/16 - 3/31	5.0	18
Cool Water Aquatic Community & Trout			
Early Life Stages	3/1 - 5/31	7.0[2]	22
Other Life Stages			
Summer Conditions	6/1 - 10/15	6.0[2]	29
Winter Conditions	10/16 - 2/28	6.0	18

1 For use in calculation of the allowable load.

2 Because of natural diurnal dissolved oxygen fluctuation, a 1.0 mg/L dissolved oxygen concentration deficit shall be allowed for not more than eight (8) hours during any twenty-four (24) hour period.

3 Discharge limits necessary to meet summer conditions will apply from June 1 of each year. However, where discharge limits based on Early Life Stage (spring) conditions are more restrictive, those limits may be extended to July 1.

4 DO shall not exhibit concentrations less than the criteria magnitudes expressed above in greater than 10% of the samples as assessed across all life stages and seasons.

5 For Lakes, the warm water aquatic community dissolved oxygen criteria expressed above are applicable to the surface waters.

Figure 3

Table 2.
Numerical Criteria to Protect Beneficial Uses and All Subcategories Thereof

Parameter	CAS#	Fish and Wildlife Propagation		Public and Private Water Supply (Raw Water)	Fish Consumption (+Other Organisms and Water)	Fish Consumption (+Other Organisms)
		Acute	Chronic			
Inorganic		µg/L	µg/L	µg/L	µg/L	µg/L
Antimony	7440360				5.6	640
Arsenic III	7440382	340	150	40		205
Asbestos	1332214				7 million fibers/liter	
Barium	7440393			1,000	1000	
Cadmium (Dissolved)	7440439	e(1.0166[ln(hardness)]-3.924) *[1.136672-0.041838 ln(hardness)]	e(0.7409[ln(hardness)] -4.719)*[1.101672-0.041838 ln(hardness)]	20	14.49	84.13
Chromium (total)				50	166.3	3,365
Chromium (III) (Dissolved)	16065831	e(0.819[ln(hardness)] + 3.7256)*0.316	e(0.819[ln(hardness)] +0.6848)*0.860			
Chromium (VI) (Dissolved)	18540299	16	11			
Copper	7440508	e(0.9422[ln(hardness)] -1.3844)	e(0.8545[ln(hardness)] 1.386)	1,000		
Cyanide	57125	45.93	10.72	200		
Fluoride @ 90°F				4,000		
Lead	7439921	e(1.273[ln(hardness)]-1.460)	e(1.273[ln(hardness)] -4.705	100	5	25

Figure 4

Mercury	7439976	2.4	1.302	2	0.05	0.051
Nickel (Dissolved)	7440020	e(0.846[ln(hardness)] +2.255*0.998	e(0.8460[ln(hardness)] +0.0584)*0.997		607.2	4,583
Nitrates (as N)	14797558			10,000		
Selenium	7782492	See Table 4	See Table 4	10		
Silver (Dissolved)	7440224	e(1.72[ln[hardness)]-6.59*0.85 (footnote 1)		50	104.8	64,620
Thallium	7440280	1,400[2]			0.24	0.47
Zinc (Dissolved)	7440666	e(0.8473]ln(hardness)] +0.884)*0.978		5,000		

1 This criterion is based on EPA 304(a) recommendations issued in 1980 that were derived using guidelines that differed from EPA's *1985 Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses* (1985 Guidelines), which update minimum data requirements and derivation procedures. Therefore, the acute criterion (CMC) may not be exceeded at any time and the chronic criterion (CCC) may not be exceeded based on a 24-hour average. However, the acute criterion may be applied using a one hour averaging period not to be exceeded more than once every three years on the average, if the acute value given in Table 2 is divided by 2 to obtain a value that is more comparable to an acute criterion derived using the 1985 Guidelines.
2 This criterion was adopted as a magnitude value only.

Figure 5

Numerical Criteria to Protect Beneficial Uses and All Subcategories Thereof						
Parameter	CAS#	Fish and Wildlife Propagation		Public and Private Water Supply (Raw Water)	Fish Consumption (+Other Organisms and Water)[3]	Fish Consumption (+Other Organisms)[3]
		Acute	Chronic			
Organic		µg/L	µg/L	µg/L	µg/L	µg/L
1-1-1-Trichloroethane	71556				3,094.0	173,100.0
1,1,2,2,-Tetrachloroethane	79345				2.0	30
1,1,2-Trichloroethane	79005				5.5	89
2-4-5-TP Silvex	93721			10	100	400
2-4-6-TNT		450.0[2]				
2-4-D	94757			100		
2,4-Dinitrotoluene	121142				0.49	17
2-Chloronaphthalene	91587				800	1,000
Acrolein	107028	3	3		6.0	9.0
Acrylonitrile	107131	7,550.0[2]			0.51	2.5
Aldrin	309002	3.0[1]			0.00049	0.00050
Alpha-Endosulfan	959988	0.22[1]	0.056[1]		20	30
Alpha-Hexachlorocyclohexane	319846				0.0036	0.0039
Benzene	71432		2,200.0[2]		22	510
Benzidine	92875			1		
Benzo(a)pyrene	50328				0.0012	0.0013
Benzo(b)fluoranthene	205992				0.012	0.013
Benzo(k)fluoranthene	207089				0.12	0.13
Beta-Endosulfan	33213659	0.22[1]	0.056[1]		20	40
Beta-Hexachlorocyclohexane	319857				0.08	0.14
Bis(2-chloro-1methylethyl) Ether	108601				200	4,000
Bis(2-chloroethyl) Ether	111444				0.3	22
Bis(chloromethyl)ether	542881				0.0015	0.17
Bromoform	75252				70	1,200
Carbaryl	63252	2.1	2.1			

Figure 6

Numerical Criteria to Protect Beneficial Uses and All Subcategories Thereof						
Parameter	CAS#	Fish and Wildlife Propagation		Public and Private Water Supply (Raw Water)	Fish Consumption (+Other Organisms and Water)[3]	Fish Consumption (+Other Organisms)[4]
		Acute	Chronic			
Organic		µg/L	µg/L	µg/L	µg/L	µg/L
Carbon Tetrachloride	56235				2.3	16
Chlordane	57749	2.4[1]	0.17[1]		0.0080	0.0081
Chlorobenzene	108907				100	800
Chloroform	67663				56.69	4,708.0
Chlorpyrifos (Dursban)	2921882	0.083	0.041			
Chrysene	218019				1.2	1.3
4,4'-DDD	72548				0.0031	0.0031
4,4' -DDE	72559				0.00018	0.00018
4,4'-DDT	50293	1.1[1]	0.001[1]		0.0022	0.0022
Demeton	8065483		0.1			
Detergents (total)				200		
Diazinon	333415	0.17				
Dibenzo(a,h)anthracene	53703				0.0012	0.0013
Dichlorobromomethane	75274				5.5	170
Dieldrin	60571	0.24	0.056		0.00052	0.00054
Dinitrophenols	25550587				10	1,000
Dioxin (TCDD)	1746016				0.00000005	0.000000051
Endosulfan		0.22[1]	0.056[1]			
Endosulfan Sulfate	1031078				20	40
Endrin	72208	0.086	0.036	0.2	0.059	0.06
Endrin Aldehyde	7421934				1	1
Ethylbenzene	100414				530	2,100
Fluoranthene	206440				20	20
Guthion	86500		0.01			
gamma BHC (Lindane)	58899	0.95		4	0.98	1.8
Heptachlor	76448	0.52[1]	0.0038[1]		0.00079	0.00079
Heptachlor Epoxide	1024573	0.52[1]	0.0038[1]		0.00032	0.00032

Figure 7

Numerical Criteria to Protect Beneficial Uses and All Subcategories Thereof						
Parameter	CAS#	Fish and Wildlife Propagation		Public and Private Water Supply (Raw Water)	Fish Consumption (+Other Organisms and Water)[3]	Fish Consumption (+Other Organisms)[4]
		Acute	Chronic			
Organic		µg/L	µg/L	µg/L	µg/L	µg/L
Hexachlorobenzene	118741				0.0028	0.0029
Hexachlorobutadiene	87683				0.1	0.1
Hexachlorocyclohexane (HCH) - Technical	608731				0.066	0.10
Indeno(1,2,3-cd)pyrene	193395				0.012	0.013
Malathion	121755		0.10			
Methoxychlor	72435		0.03	100		
Methylene blue active substances				500		
Mirex	2385855		0.001			
Nitrosodibutylamine	924163				0.063	2.2
Nitrosopyrrolidine	930552				0.16	340
Nonylphenol	25154523	28	6.6			
Parathion	56382	0.065	0.013			
PCB			0.044		0.00064	0.00064
PCE (Tetrachloroethylene)	127184	5,280.0[2]			6.9	33
Pentachlorobenzene	608935				0.1	0.1
Pentachlorophenol	87865	e[1.005(pH)-4.869]	e[1.005(pH)-5.134]		2.7	30
Perchlorate	7601-90-3	6,600[2]	1,800[2]		~~9~~ 5	
Phenol	108952				10,000	860,000
Phthalate esters				3		
Bis(2-ethylhexyl) phthalate (BEHP)	117817				12	22
Butylbenzyl phthalate	85687			150	1,500	1,900
Diethyl phthalate	84662				17,000	~~44~~,000
Dimethyl phthalate	131113				270,000	1,100,000
Di-*n*-Butyl phthalate	84742				2,000	4,500

Figure 8

Numerical Criteria to Protect Beneficial Uses and All Subcategories Thereof						
Parameter	CAS#	Fish and Wildlife Propagation		Public and Private Water Supply (Raw Water)	Fish Consumption (+Other Organisms and Water)[3]	Fish Consumption (+Other Organisms)[3]
		Acute	Chronic			
Organic		µg/L	µg/L	µg/L	µg/L	µg/L
RDX	121824	2,591.5[2]				
Toluene	108883		875.0[2]		1,300	15,000
Toxaphene	8001352	0.78	0.0002	5		
Tributyltin (TBT)		0.46	0.072			

1 This criterion is based on EPA 304(a) recommendations issued in 1980 that were derived using guidelines that differed from EPA's *1985 Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses* (1985 Guidelines), which update minimum data requirements and derivation procedures. Therefore, the acute criterion (CMC) may not be exceeded at any time and the chronic criterion (CCC) may not be exceeded based on a 24-hour average. However, the acute criterion may be applied using a one hour averaging period not to be exceeded more than once every three years on average, if the acute value given in Table 2 is divided by 2 to obtain a value that is more comparable to an acute criterion derived using the 1985 Guidelines.

2 This criterion was adopted as a magnitude value only.

3 A carcinogenicity value of 10^{-5} was used where applicable.

Figure 9

TABLE 3

Conversion Factors for Total to Dissolved Fractions
[H=hardness as $CaCO_3$ (mg/L)]

METAL	CAS#	ACUTE	CHRONIC
Arsenic	7440382	1.000	1.000
Cadmium	7440439	1.136672 – 0.041838 lnH	1.101672 – 0.041838 lnH
Copper	7440508	0.960	0.960
Chromium III	16065831	0.316	0.860
Chromium VI	18540299	0.982	0.962
Lead	7439921	1.46203 – 0.145712lnH	1.46203 – 0.145712lnH
Mercury	7439976	0.850	N/A
Nickel	7440020	0.998	0.997
Silver	7440224	0.850	N/A
Selenium	7782492	NA	1.000
Zinc	7440666	0.978	0.986

Figure 10

Table 4

Surface Water Quality Aquatic Life Criterion for Selenium

Media Type	Fish Tissue[1]	Water Column[3]	
Criterion Element	Egg/Ovary or Fish Whole-body or Muscle[2]	Monthly Average Exposure	Intermittent Exposure[4]
Magnitude	15.1 mg/kg dry weight (egg/ovary) or 8.5 mg/kg dry weight whole-body or 11.3 mg/kg dry weight muscle (skinless, boneless fillet)	1.5 µg/L in lakes aquatic systems 3.1 µg/L in rivers/streams aquatic systems	$WQC_{int} = \frac{WQC_{30-day} - C_{bkgrnd}(1 - f_{int})}{f_{int}}$
Duration	Instantaneous measurement[5]	30 days	Number of days/month with an elevated concentration
Frequency	Not to be exceeded	Not more than once in three years on average	Not more than once in three years on average

1. Fish tissue elements are expressed as steady-state.
2. Egg/ovary supersedes any whole-body, muscle, or water column element if fish egg/ovary concentration data are available, except as noted in footnote 3 below. Fish whole-body or muscle tissue supersedes water column element when both fish tissue and water concentrations are measured, except as noted in footnote 3 below.
3. Water column values are based on dissolved total selenium (TDSe) in water and are derived from fish tissue values via bioaccumulation modeling. When selenium inputs are increasing, water column values are the applicable criterion element in the absence of steady-state condition fish tissue data.
4. Where $WQC_{30\text{-}day}$ is the water column monthly element for either lake or river/stream waters; C_{bkgmd} is the average background selenium concentration; and f_{int} is the fraction of any 30-day period during which elevated selenium concentrations occur, with f_{int} assigned a value ≥ 0.033 (corresponding to 1 day).
5. Fish tissue data provide instantaneous point measurements that reflect integrative accumulation of selenium over time and space in fish population(s) at a given site.

Figure 1

APPENDIX H. BENEFICIAL USE DESIGNATIONS FOR CERTAIN LIMITED AREAS OF GROUNDWATER

A. Within Oklahoma there are some bodies or areas of groundwater the quality of which is not suitable for the beneficial uses that are designated on a default basis in OAC 252:730-7-3(b). In most cases this unsuitability is caused by natural conditions or irreversible human-induced impacts such as pollution. Consequently, it is necessary to provide for beneficial use designations for these limited areas of groundwater which are more accurate and appropriate than the default designations in OAC 252:730-7-3(b). The absence of an area of a groundwater formation from this appendix does not indicate that area is free from contamination or has quality suitable for any beneficial use.

B. The groundwater formations or portions thereof that require special designations are identified in the tables that follow in this Appendix. The groundwater formations or units are identified by their name (e.g., "Garber Wellington") and legal description (e.g., "2-4, 9-11, 13-16 T2N R20W " denoting section(s), Township and Range). The area identified may be localized and not necessarily inclusive of the entire hydrogeologic basin or groundwater formation. The tables also set forth a general description of the physical location above the groundwater formation or unit for use as a general point of reference. The tables also set forth columns to show the groundwater classifications and beneficial uses which are designated for each identified area of groundwater. A "Depth Zone" also is indicated, to which the beneficial uses and "Remarks" listed in following columns are applicable.

C. Designations of beneficial uses for an identified groundwater formation or portion thereof are reflected in the tables by the presence of a dot ("•") in the columns to the right of the groundwater name and location. An empty space in a column means that column's beneficial use or subcategory thereof is not designated for that groundwater. Groundwater not identified in this Appendix is subject to the default designations detailed in OAC 252:730-7-3.

D. The state environmental agency that requested the groundwater formation or unit to be so identified and designated with certain beneficial uses and/or limitations is shown in the column headed "Agency". A specific division within that agency may also be listed. Questions relating to the quality of the groundwater found in any particular formation or unit, or concerns related to any comment in the "Remarks" column, should be addressed to the agency denoted in the "Agency" column.

E. The presence of any comment in the "Remarks" column denotes special circumstances which are applicable only to the groundwater formation or unit so identified. These comments may refer to certain constituents of the groundwater at that location, special well construction requirements, or other information deemed pertinent by the agency that requested this listing.

F. Definitions
"ACOG" means Association of Central Oklahoma Governments
"Corp Comm" means Oklahoma Corporation Commission
"DEQ" means Oklahoma Department of Environmental Quality
"SEP" means Supplemental Environmental Projects
"RCRA" means Resource Conservation and Recovery Act
"VCP" means Voluntary Cleanup Program

Figure 2

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Garber Wellington (Thunderhead Hills)	W 1/2 of W 1/2 of Section 20, T14N, R2W, IM; W 1/2 of NW 1/4 and NW 1/4 of SW 1/4 of Section 29, T14N, R2W, IM	Along and ¼ mile east of Coltrane from Danforth Rd to Sherrywood Rd, Edmond, Oklahoma County	85-200 ft deep; ¼ mile wide by at least 1 ¾ mile long	2		•		Corp Comm, Oil and Gas Div & ACOG	Brine plume moving south about 80 feet/year. Case/cement new wells through upper affected zone.
Garber Wellington (Double Eagle / 4th St superfund site)	SE 1/4 of Section 35, T12N, R3W, IM and SW 1/4 of Section 36, T12N, R3W, IM	Oklahoma County	0-160	2		•	•	DEQ	Brine, chlorinated solvents and hydrocarbons. Special well construction required.

Figure 3

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Boone (Tar Creek superfund site)	Sections 13, 14, 23, 24, 25, 26, 35, and 36 of T29N, R22E, IM. Sections 13-36 of T29N, R23E, IM. Sections 17-19, W 1/2 of Section 20, W 1/2 of Section 29, and Sections 30-32 of T29N, R24E, IM. Section 1, E 1/2 of Section 2, E 1/2 of Section 11, Section 12, N 1/2 of Section 13, NE 1/4 of Section 14 all in T28N, R22E, IM. Section 1, W 1/2 of Section 5, Section 6, Section 7, W 1/2 of Section 8, NW 1/4 of Section 17, N 1/2 of Section 18 all in T28N, R23E, IM, W 1/2 of Section 5, Section 6 all in T28N, R24E, IM.	Ottawa County	0-350	2	•	•	•	DEQ	Toxic metals, special well construction required

Figure 4

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Quaternary Terrace (Kingfisher Wellhead Protection Area)	Section 33, SW 1/4 of Section 36 in T18N, R7W, IM. SW 1/4 of Section 1, NW 1/4 and S 1/2 of Section 2, N 1/2 of Section 3, N 1/2 of Section 4, NE 1/4 of Section 11, and Section 12 all in T17N, R7W, IM	Kingfisher County	0-100	1	•	•	•	DEQ	Zone 1 Wellhead Protection Area, no pollution sources
Southwestern Oklahoma (Altus AFB area)	Sections 34-36 in T3N, R20W, IM. Sections 1-3, Sections 10-15, and Sections 22-24 all in T2N, R20W, IM	North of US 62, eastern edge of City of Altus and entire AFB, Jackson County	0-60	3		•	•	OWRB	TCE and by-products, remediation activity in-place
Ogallala (Dobson Ranch)	One square acre within NW 1/4 of Section 17, T11N, R26W, IM	State Highway 152, approximately four miles west of Sweetwater, OK, Roger Mills County	0-20	2	•	•	•	DEQ - VCP	Restriction on groundwater use within the 1 square mile recorded on a deed notice due to Benzene contamination. See DEQ or county clerk for location details

Figure 5

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Quaternary Terrace Deposits - (Cornerstone Shopping Center)	SE 1/4 of Section 16, T12N, R4W, IM, Approx six (6) acres of WEST PARK ADDITION to Oklahoma County, Oklahoma.	3900 N. MacArthur Avenue, Oklahoma City, Oklahoma County, Oklahoma	0-22	2	•	•	•	DEQ - VCP	Tetrachloro-ethene - Deed restriction on file. See DEQ or county clerk for location details.

Figure 6

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Alluvium & Terrace Deposits - (OKC Urban Renewal Phase I)	21.6 acres of the NW 1/4 of Section 3, T11N, R3W, IM	An area bounded to the South of Reno Avenue, East of the BNSF railroad tracks, North of Interstate 40/or its replacement street and west of a line extended from Stiles Avenue to Interstate 40/or its replacement street in Oklahoma City, Oklahoma County, Oklahoma.	0-30	2	•	•	•	DEQ - VCP	Deed restriction on groundwater use. See DEQ or county clerk for location details.

Figure 7

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Coffeyville Formation (Compass Industries Landfill Superfund site)	SE 1/4 of NE 1/4 and NE 1/4 of SE 1/4 of Section 13, T19N, R11E, IM, and S 1/2 of NW 1/4 and N 1/2 of SW 1/4 of Section 18, T19N, R12E, IM	7600 W 26th St, Tulsa, Tulsa County, Oklahoma	0-105	2	•	•	•	DEQ-Superfund	Deed restriction on groundwater use for any purpose. See DEQ or county clerk for location details.
Weatherford Member of the Cloud Chief Formation & Rush Springs Sandstone Formation (Oklahoma Refining Company Superfund site)	S 1/2 of SW 1/4 of Section 18, T5N, R9W, IM and NW 1/4 of Section 19, T5N, R9W, IM, and NW 1/4 of Section 19, T5N, R9W, IM, and SE 1/4 of SE 1/4 of Section 13, T5N, R10W, IM and E 1/2 of NE 1/4 of NE 1/4 of Section 24, T5N, R10W, IM	South Baskett St, Cyril, Caddo County, Oklahoma	0-145	2	•	•	•	DEQ - Superfund	Deed restriction on disturbing landfill caps and on groundwater use for any purpose due to hydrocarbon contamination. See DEQ or county clerk for location details.
North Canadian Alluvium (Tenth Street Superfund site)	2.931 acres in the NW 1/4 of Section 31, T12N, R2W, IM	3200 NE 10th St Oklahoma City, Oklahoma County, Oklahoma	0-20		•	•	•	DEQ - Superfund	Deed restriction on drilling of any type of wells through the landfill cap or into the landfill. See DEQ or county clerk for location details.

Figure 8

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
North Canadian Alluvium and Garber (Mosley Road Landfill Superfund site)	71.765 acres in NE 1/4 of Section 21, T12N, R2W, IM	Mosely Road Between NE 23 & NE 36 Oklahoma City, Oklahoma County, Oklahoma	0-150	2	•	•	•	DEQ - Superfund	Restriction on groundwater use for any purpose. See DEQ or county clerk for location details
Tallant Formation (Blackstar Performance)	SE 1/4 of Section 25, T20N, R8E, IM and NE 1/4 of Section 25, T20N, R8E, IM	East of Highway OK-48, about 4 miles north of Highway OK-51 intersection, in Terlton, Pawnee County, Oklahoma	0-30; depth of contamination not yet defined	2	•	•	•	DEQ - RCRA	1,1,1-Tricholroethane and 1,1-Dichoroethene Depth of contamination unknown, private wells to 200 feet are impacted. See DEQ for additional details.

Figure 9

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
N. Canadian Terrace Deposits underlain by Hennesey Group (OKC Solvent Plume)	Approximately 80 acres in NE 1/4 of Section 27, T12N, R4W, IM and NW 1/4 of Section 27, T12N, R4W, IM	Between NW 23rd and NW 19th and N Meridian and Ann Arbor, Oklahoma City, Oklahoma County, Oklahoma	0-30; depth of contamination not yet defined.	2	•	•	•	DEQ -SEP	Tetrcholor-ethylene (max 1200 ppb) and Thrichhloro-ethylene (max 35 ppb). Plume not delineated; private wells impacted. See DEQ for details.
Garber-Wellington (Eagle Industries)	Approximately o acres in SE 1/4 of Section 7, T11N, R1W, IM	North of SE 29th & West of Westminister Road, Midwest City, Oklahoma County, Oklahoma	0-50; depth of contamination not yet defined.	2	•	•	•	DEQ - RCRA	Trichloro-ethylene (max 2280 ppb). Plume not delineated. See DEQ for details.
East Central Oklahoma bedrock	SE 1/4 of SE 1/4 of SE 1/4 of Section 5, T7N, R9E, IM	Hughes County	200; Aerial extent unknown	2	•	•	•	Corp. Comm. O & G Division	Brine affecting aquifer. Disposal well offsetting old (now plugged) oil well was the most likely conduit.

Figure 10

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Garber-Wellington Sandstone Formation	NW 1/4 of SE 1/4 of Section 1, T9N, R2E, IM	Pottawatomie County	160-200; 20 acres	2	•	•	•	Corp. Comm. O & G Division	Brine affecting aquifer. Now plugged disposal well was the most likely source.
Rush Springs Sandstone, Marlow Formation. (Cyril Plume)	Portions of Sections 1 and 12 in T5N, R10W, IM and Sections 6 and 7 in T5N, R9W, IM and Section 36, T6N, R10, WIM and Section 31, T6N, R9W, IM	2-3 miles north of Cyril, Caddo County.	Up to 450 ft deep; some saline groundwater discharge into Little Washita River tributaries. ~960 acre plume	2	•	•	•	Corp Comm, Oil and Gas Div	~960 acre plume moving S-SW @ 90'/year; 30 year monitoring program started in 1999. Cyril municipal wells affected were abandoned.

Figure 11

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Blaine (Drummond Flats)	NE 1/4 of Section 33, T22N, R8W, IM	From NE corner of Drummond 4 miles north, 1 west, 1 south and 3/8 west. Near Turkey creek.	20-50 ft in affecte d wells.	2	•	•	•	Corp Comm, Oil and Gas Div	Drummond Flats, water has historical contamination.
Terrace Deposits (Drummond Flats)	SW 1/4 of Section 12, T21N, R9W, IM	From Ames, 1/2 mile east, 4 miles north, 3 3/4 east, north into site.	About 40 ft in affecte d wells.	2	•	•	•	Corp Comm, Oil and Gas Div	Drummond Flats, water has historical contamination.
Arkansas River Alluvium (Sand Springs Petrochemical Superfund Site)	W 1/2 of NW 1/4 of Section 13, T19N, R11E, IM and NE 1/4 of Section 14, T19N, R11E, IM	Tulsa County	0-37	2		•	•	DEQ Land Protection Division	Metals, VOC. Special Well Construction Required.
Vamoosa, Tallant, and Barnsdall Formations (Kwikset)	Part of SE 1/4 of NE 1/4 Section 31, T16N, R9E, IM	1201 South Maple Street, Bristow, Creek County	0-60	2	•	•	•	DEQ, Land Protection Division	Property has restrictions on groundwater and land use. Groundwater is contaminated with VOCs. See DEQ-Land Protection Division or county clerk for details.

Figure 12

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Savanna and McAlester Formations and Arkansas River Alluvium and Terrace Deposits (Fansteel Metals, a/k/a FMRI)	Part E 1/2 of SE 1/4 Section 17, T15N, R19E, IM; SE 1/4 of SE 1/4 of NE 1/4 Section 17, T15N, R19E, IM; part of W 1/2 of SW 1/4 Section 16, T15N, R19E, IM; S 1/2 of SW 1/4 of NW 1/4 Section 16, T15N, R19E, IM	10 Tantalum Place, Muskogee, Muskogee County	0-40	2	•	•	•	DEQ, Land Protection Division	Trichloroethylene contamination above USEPA MCL of 5 µg/L in Section 17; Uranium contamination above USEPA MCL of 30 µg/L in Section 16. Property in Section 16 and part of S 1/2 of SE 1/4 of SE 1/4 of Section 17 is also under Nuclear Regulatory Commission License SMB-911.
Garber-Wellington and Cimarron River Alluvium (Cimarron Environmental Trust Site, formerly KerrMcGee)	Part of N 1/2 Section 12, T16N R4W, IM; Part of S 1/2 of S 1/2 Section 1, T16N, R4W, IM	100 N US Hwy 74, Guthrie, Logan County	0-80	2	•	•	•	DEQ, Land Protection Division	Uranium, Nitrates and Fluoride contamination are present above USEPA MCLs of 30 µg/L (Uranium), 10 mg/L(Nitrate as N) and 4 mg/L (Fluoride). Site is subject to Nuclear Regulatory Commission License SNM-0928.
Vamoosa-Ada Aquifer and overlying Unconsolidated Materials (Cleveland, KerrMcGee Refinery)	NE 1/4 Section 18, T21N, R8E, IM; E 1/2 of E 1/2 of E 1/2 of NW 1/4 Section 18, T21N, R8E, IM	Southwest of Cleveland, Pawnee County	0-60	2	•	•	•	DEQ, Land Protection Division	Benzene, Toluene, Xylenes, Benzo(a) Pyrene, Arsenic, and Lead are present above USEPA MCLs; Light Non-Aqueous-Phase Liquids (LNAPL) present on-site

Figure 13

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Terrace Deposits, Upper and Lower Vanoss (Cushing KerrMcGee Refinery)	Part of S 1/2 Section 22, T18N, R5E, IM; NE 1/4 Section 27, T18N, R5E, IM; SW 1/4 Section 23, T18N, R5E, IM	North of Cushing, Payne County	0-80	2	•	•	•	DEQ, Land Protection Division	No use of groundwater other than for monitoring purposes. Groundwater contamination includes hydrocarbons, sulfate, acid, and metals. See DEQ-Land Protection Division or county clerk for details.
Garber Wellington (Duncan Refinery)	Part of Section 32, T1S, R7W, IM; N 1/2 Section 5, T2S, R7W, IM; SW 1/4 of NW 1/4 of NW 1/4 Section 4, T2S, R7W, IM	South of Duncan, Stephens County	14-40	2	•	•	•	DEQ, Land Protection Division	No use of groundwater other than for monitoring purposes. Groundwater contamination includes: Light Non-Aqueous-Phase Liquids (LNAPL), VOCs, SVOCs, Metals. See DEQ-Land Protection Division or county clerk for details.
Enid Isolated Terrace Aquifer (Former Champlin Refinery)	Sections 3 and 4, T22N, R6W, IM; S 1/2 of SE 1/4 Section 33, T23N, R6W, IM	2529 E. Willow Road, Enid, OK, Garfield County	0-55	2	•	•	•	DEQ, Land Protection Division	Benzene contamination above USEPA MCL of 5 µg/L

Figure 14

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Alluvium and Terrace Deposits (Former Okmulgee Refinery)	Parts of SE 1/4 Section 31, T14N, R13E, IM; W 1/2 of NE 1/4 Section 6, T13N, R13E, IM; E 1/2 of E1/2 of NW 1/4 Section 6, T13N, R13E, IM	North of Okmulgee, Okmulgee County	0-40	2	•	•	•	DEQ, Land Protection Division	No use of groundwater other than for monitoring purposes and no drilling of groundwater well for domestic consumption, irrigation, or industrial purposes. See DEQ-Land Protection Division or county clerk for details.
Garber Sandstone - Central Oklahoma Aquifer (Boulevard Market Cleaners, Weingarten Nostat, Inc)	Parts of S 1/2, S 1/2, SE 1/4 Section 35, T12N, R2W, IM	101 N. Douglas Voulevard, Midwest City, Oklahoma County	0-65	2	•	•	•	DEQ, Land Protection Division	Groundwater contamination includes VOCs. See DEQ-Land Protection Division for details.
Poteau River Alluvium and Terrace Deposits (Former Rab Valley Wood Preserving Site)	Parts of SW 1/4 Section 15, T8N, R25E, IM and E 1/2 of NE 1/4 of SE 1/4 Section 16, T8N, R25E, IM	Tecumseh St., Panama, OK 74951	0-40	2	•	•	•	DEQ, Land Protection Division	No on-site groundwater use except for monitoring purposes due to NAPL, VOC, and SVOC contamination. See DEQ or county clerk for details.

Figure 15

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Vanoss Group (Hudson Refinery Superfund site)	NE 1/4 of NW 1/4 of Section 4, T17N, R5E, IM and SW 1/4 of Section 33, T18N, R5E, IM	Payne County	18-168	2	•	•	•	DEQ, Land Protection Division	Deed restriction was filed with county prohibiting ground water use for any purpose due to hydrocarbon contamination. See DEQ Land Protection Division (405-702-5100) or county clerk for location details.
North-Central Oklahoma (Blackwell Zinc Company ("BZC") site)	Portions of Sections 14, 15, 16, 21, 22, 23,26, 27 and 28 of T27N, R1W, IM. Generally located to the north and south between 500 ft. north of Doolin Avenue and Adams Avenue and to the east and west between 21st Street and 200 ft. east of main Street, City of Blackwell.	Kay County	0-40	2	•	•	•	DEQ, Land Protection Division	City Ordinance No. 2801 prohibiting installation of ground water wells within the ground water protective area due to cadmium and zinc contamination. Contact DEQ Land Protection Division (405-702-5100) or city for location details.

Figure 16

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
North-Central Oklahoma (Former Farmland Feedmill site)	36.26 acres in SW 1/4. Section 19, T22N, R6W, IM	3013 South Van Buren Street, Enid, Garfield County, Oklahoma	0-30; depth of contamination not defined	2	•	•	•	DEQ, Water Quality Division	Restriction on groundwater use due to nitrate contamination. Nitrate concentrations exceed drinking water standards. Drinking water wells should not be constructed in this area. See DEQ Water Quality Division for location details.
Atoka and Overlying Alluvium (Sequoyah Fuels Corporation)	Section 21, T12N, R21E, IM	Sequoyah County	0-100	2	•	•	•	DEQ, Land Protection Division	Uranium, Nitrates, and Arsenic contamination are present above USEPA MCLs of 30 µg/L (Uranium), 10 mg/L (Nitrate as N) and 10 µg/L (Arsenic). Site is subject to Nuclear Regulatory Commission License SUB-1010

Figure 17

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Duncan Sandstone (Osage Road Site Plume)	Portions of Sections 8, 9, 16, and 17 in T1N, R7W, IM as follows: 8-1N-7W, SW/4 SW/4; 9-1N-7W, NE/4 NE/4; 17-1N-7W, NW; 16-1N-7W	605 West Osage Road, Duncan, Oklahoma, Stephens County	25 up to 200	2	•	•	•	DEQ, Land Protection Division	Approximately 275-acre perchlorate groundwater plume. Partial coverage of deed restrictions on groundwater use. Groundwater remediation is in progress and public water connection is available. Drinking water wells should not be constructed in this area. Contact DEQ Land Protection Division for location details (405-702-5100).

Figure 18

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Boone and Roubidoux Aquifers (Tar Creek Superfund Site)	Sections 13, 14, 23, 24, 25, 26, 35, and 36 of T29N, R22E, IM. Sections 13-36 of T29N, R23E, IM. Sections 17-19, W 1/2 of Section 20, W 1/2 of Section 29, and Sections 30-32 of T29N, R24E, IM. Section 1, E 1/2 of Section 2, E 1/2 of Section 11, Section 12, N 1/2 of Section 13, NE 1/4 of Section 14 all in T28N, R22E, IM. Section 1, W 1/2 of Section 5, Section 6, Section 7, W 1/2 of Section 8, NW 1/4 of Section 17, N 1/2 of Section 18 all in T28N, R23E, IM, W 1/2 of Section 5, Section 6 all in T28N, R24E, IM.	Ottawa County	0-350 (Boone) & 500-1500 (Roubidoux Aquifer)	2	•	•	•	DEQ, Land Protection Division	Boone Aquifer is impacted by former mining activities and may contain toxic metals. For Boone wells, groundwater testing is recommended and treatment is required if lead or arsenic are ≥ 10 µg/L, or if cadmium is ≥ 5 µg/L. For Roubidoux wells, special protective well construction is required to entirely case off the Boone Aquifer. Follow OWRB (785:35-7-1) and DEQ (252:626-7-4) construction standards. See Special Well Construction Fact Sheet on DEQ's Tar Creek webpage for recommendations.

Figure 1

APPENDIX I. CRITERIA FOR GROUNDWATER PROTECTION

Table 1. Numerical criteria to protect the Public Water Supply and Domestic Untreated Water Supply beneficial uses.

Parameter	CAS #	Criteria (µg/L, unless otherwise noted)
Nickel	7440020	140
Acrolein	107028	3.5
Acrylonitrile	107131	0.65
Aldrin	309002	0.021
Chloroform	67663	70
4,4"-DDD	72548	1.5
4,4'-DDT	50293	1
Dichlorobromomethane	75274	5.6
Dieldrin	60571	0.022
Perchlorate	7601-90-3	4.9
Phenol	108952	4,200
Bis(2-ethylhexyl)phthalate (BEHP)	117817	25
Butylbenzyl phthalate	85687	1,400
Diethyl Phthalate	84662	5,600
Dimethyl Phthalate	131113	70,000
Di-n-Butyl Phthalate	84742	700

Figure 2

Table 2. Secondary drinking water contaminants and associated criteria as listed in 40 CFR 143.3.

Parameter	Criteria
Aluminum	0.05 to 0.2 mg/L
Chloride	250 mg/L
Color	15 color units
Copper	1.0 mg/L
Corrosivity	Non-corrosive
Fluoride	2.0 mg/L
Foaming Agents	0.5 mg/L
Iron	0.3 mg/L
Manganese	0.05 mg/L
Odor	3 TON (threshold odor number)
pH	6.5 – 8.5
Silver	0.1 mg/L
Sulfate	250 mg/L
Total Dissolved Solids (TDS)	500 mg/L
Zinc	5.0 mg/L

APPENDIX A. DESIGNATED BENEFICIAL USES OF SURFACE WATERS

(a) **Introduction.** The Tables in the following Appendices A.1 through A.7 identify certain waterbodies throughout the state of Oklahoma and designate beneficial uses for those waterbodies. The waterbodies are identified by their name (e.g., "Horse Creek") or other description (e.g., "Tributary of Lebos Creek at Sec. 2, T2N, ~~R 26W~~R26W, IM", "Red River from the Arkansas State Line to the Kiamichi River") and a Waterbody ID Number. The Waterbody ID numbers are used in the State of Oklahoma "Water Quality Assessment Integrated Report" published by the Oklahoma Department of Environmental Quality. The first digit of the Waterbody ID number indicates the basin number; the next three digits indicate the major drainage segment within that basin; the next two digits indicate the subdivision of the major drainage segment, the next two digits indicate a smaller section of that six digit basin, and the last four digits represent a hydrologic sequence of waterbodies, going from the most downstream point in the eight-digit watershed up to the furthest upstream point in the watershed. In some cases, two additional digits are added to indicate further delineations within the waterbody segment. Not all waterbodies have a Waterbody ID number, primarily due to limited resources and need. Where a specific Waterbody ID has not been assigned, the six-digit Water Quality Management Segment is listed until such time as the waterbody is assigned a specific Waterbody ID number. The Tables in Appendices A.1 through A.7 also set forth columns to show the beneficial uses or subcategories of uses which are designated for each identified waterbody.

(b) **Beneficial Use Designations.** Designations of beneficial uses for a waterbody are reflected in the Tables in Appendices A.1 through A.7 by the presence of the following codes or a dot ("•") in the columns to the right of the waterbody name. An empty space in a column means that column's beneficial use or subcategory thereof is not designated for that waterbody.

(1) **EWS** - Emergency Water Supply beneficial use
(2) **PPWS** - Public and Private Water Supply beneficial use
(3) **F&W Prop** - Fish and Wildlife Propagation beneficial use
  (A) **WWAC** - Warm Water Aquatic Community subcategory
  (B) **HLAC** - Habitat Limited Aquatic Community subcategory
  (C) **CWAC** - Cool Water Aquatic Community subcategory
  (D) **Trout** - Trout Fishery (~~put and take~~ Put and Take) subcategory
(4) **Ag** - Agriculture beneficial use
(5) **Rec** - Recreation beneficial use
  (A) **PBCR** - Primary Body Contact beneficial use
  (B) **SBCR** - Secondary Body Contact beneficial use
(6) **Nav** - Navigation beneficial use
(7) **Aes** - Aesthetics beneficial use

A dot ("•") used in a column indicates that the beneficial use in that column's heading is designated for that waterbody without a more specific subcategory or other designation.

The criteria to protect the beneficial uses are provided in Subchapter 5 and Appendix G of this Chapter.

(c) **Limitations for Additional Protection.**

(1) Limitations for additional protection are described in OAC 252:730-5-25.
(2) Waterbodies that are subject to limitations for additional protection in OAC 252:730-5-25 are identified by the designation of any of the following codes in the "Limitations" column to the right of the waterbody's name:
  (A) "**ORW**" - indicates waters designated Outstanding Resource Waters;
  (B) "**HQW**" - indicates waters designated High Quality Waters; and

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(C) "**SWS**" - indicates waters designated Sensitive Public and Private Water Supplies.

(D) **"SWS-R**" means waterbodies classified as sensitive public and private water supplies that may be augmented with reclaimed municipal water for the purpose of indirect potable reuse.

(d) **Remarks used in Appendices A.1 through A.7.** The presence of any of the following footnotes in the "Remarks" column to the right of a waterbody's name denotes special circumstances which are applicable to that waterbody.

(1) A footnote (1) excludes the Scenic River designation from that portion of Lee Creek necessary for a dam to be built in the State of Arkansas with a crest elevation of no more than the 420 foot MSL elevation according to plans, specifications and conditions contained in U.S. Army Corps of Engineer Permit WD-050-03-3541 and in the Federal Energy Regulatory Commission License for Project No. 5251-002, which were approved by the U.S. Environmental Protection Agency. Changes in water quality caused by the impoundment of water by said dam shall not constitute a violation of Oklahoma's Water Quality Standards.

(2) The remark "CSW" designates those waters identified as Culturally Significant Waters.

(3) The remark "NLW" designates a nutrient-limited watershed. Specific delineations of nutrient-limited watersheds are provided in OAC 252:730-5-29.

(4) A footnote (4) designates those streams for which further investigations are pending. Beneficial use designations for those streams are provided in Subchapter 5 of this Chapter.

SUPP

APPENDIX A.1
Designated Beneficial Uses of Surface Waters
Water Quality Management Basin 1, Middle Arkansas River

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Arkansas River from mouth of Canadian River to the mouth of the Verdigris River including Webbers Falls Reservoir	120400010260, 120400010010, 120400010070, 121500010005	EWS	WWAC	●	PBCR	●	●		
Dirty Creek	120400020010	PPWS	WWAC	●	PBCR		●		
Tributary of Dirty Creek at SW 1/4, Sec. 31, T12N, R21E, IM	120400020015_00		HLAC	●	SBCR		●		
South Fork of Dirty Creek	120400020030		WWAC	●	PBCR		●		
East Pourum Creek at NE SE SE, Sec. 2, T10N, R19E, IM	120400020060		HLAC	●	SBCR		●		
Georges Fork	120400020110	EWS	WWAC	●	PBCR		●		
Tributary of Georges Fork at SE 1/4, Sec. 35, T12N, R19E, IM (Howland Creek)	120400020120_00	EWS	HLAC	●	SBCR		●		
Warner (Connors) Lake	120400020140	PPWS	WWAC	●	PBCR		●		
Tributary of Dirty Creek at SE 1/4, Sec. 1, T12N, R18E, IM	120400020250		WWAC	●	PBCR		●		
Lower Illinois River from ~~Robert S. Kerr Reservoir~~ Arkansas River (OK120400010010_10) to Tenkiller Dam	121700010010	PPWS	Trout	●	PBCR	●	●	HQW	
Upper Illinois River from Tenkiller Dam, including Tenkiller Lake upstream to Barren Fork confluence	121700020300_00, 121700020020, 121700020220	PPWS	CWAC	●	PBCR		●	HQW	NLW
Cato Creek	121700020090	PPWS	WWAC	●	PBCR		●		
Terrapin Creek	121700020130	PPWS	WWAC	●	PBCR		●		

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Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Caney Creek	121700040010,	PPWS	CWAC	●	PBCR		●		
Negro Jake (Hollow) Creek	121700040020		CWAC		PBCR		●		
Park Hill Branch	121700020270		WWAC	●	PBCR		●		
Barren Fork from confluence with ~~Mining Camp Hollow Creek, North~~ Illinois River to Hwy. 59	121700020310, 121700050010, 121700050170_00	PPWS	CWAC	●	PBCR		●	ORW	Scenic River
North Mining Camp (Hollow) Creek	121700050040		CWAC		PBCR		●		
Tyner Creek	121700050090	PPWS	CWAC	●	PBCR		●	ORW	
Dennison Hollow	121700050110	PPWS	CWAC	●	PBCR		●	ORW	
Peacheater Creek	121700050120	PPWS	CWAC	●	PBCR		●	ORW	
Scraper Hollow	121700050130	PPWS	CWAC	●	PBCR		●	ORW	
England Hollow	121700050140	PPWS	CWAC	●	PBCR		●	ORW	
Green Creek	121700050150	PPWS	CWAC	●	PBCR		●	ORW	
Shell Branch	121700050180	PPWS	CWAC	●	PBCR		●	ORW	
(East) Peavine Creek	121700050190		CWAC		PBCR		●		
Barren Fork from Hwy. 59 to Arkansas State Line	121700050170_10	PPWS	CWAC	●	PBCR		●	ORW	
Evansville Creek	121700050200	PPWS	CWAC	●	PBCR		●	ORW	
Upper Illinois River upstream of Barren Fork confluence	121700020300_10, 121700030010, 121700030080, 121700030280, 121700030350	PPWS	CWAC	●	PBCR		●	ORW	Scenic River
Luna (Branch) Creek	121700030260		CWAC		PBCR		●		
Winset Hollow Creek	121700030230	PPWS	WWAC	●	PBCR		●		
Steely Hollow Creek	121700030120		CWAC		PBCR		●		
Tahlequah Creek (Town Branch)	121700030020, 121700030040	PPWS	CWAC	●	PBCR		●	ORW	

SOP

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Flint Creek	121700030290, 121700060010_00, 121700060010_10	PPWS	CWAC	●	PBCR		●	ORW	Scenic River
Sager Creek	121700060080	PPWS	CWAC	●	PBCR		●	ORW	
Ballard Creek	121700030370	PPWS	CWAC	●	PBCR		●	ORW	
Tributary of Arkansas River at Sec. 7, T12N, R21E, IM	120400010035_00		WWAC	●	PBCR		●		
Greenleaf Creek including Greenleaf Lake and Watershed	120400010110, 120400010120, 120400010130, 120400010140, 120400010150, 120400010160, 120400010170, 120400010180, 120400010190, 120400010200	PPWS	WWAC	●	PBCR		●	SWS	
Star (Oxbow) Lake	120400010230		WWAC	●	PBCR		●		
Sand Creek	120400010240		HLAC	●	SBCR		●		
Bayou Manard	120400010280	PPWS	WWAC	●	PBCR		●		
Coody Creek	120400010400	PPWS	WWAC	●	PBCR		●		
Grand River Main Stem (Grand Neosho River) from mouth to Kansas State Line, including Lake Hudson and (Grand) Lake O' the Cherokees but excluding Fort Gibson Lake	121600010010, 121600010040, 121600010280, 121600020010, 121600020020, 121600020140, 121600020170, 121600030020, 121600030030, 121600030040, 121600040010, 121600040120, 121600040220	PPWS	WWAC	●	PBCR		●		
Fort Gibson Lake	121600010050, 121600010200	PPWS	WWAC	●	PBCR		●		NLW
Ranger Creek	121600010060	PPWS	WWAC	●	PBCR		●		
Fourteen Mile Creek	121600010100	PPWS	CWAC	●	PBCR		●	HQW	
Black Bird Creek	121600010130	PPWS	CWAC	●	PBCR		●		

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Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Double Springs Creek	121600010090	PPWS	WWAC	●	PBCR		●		
Clear Creek	121600010210	PPWS	CWAC	●	PBCR		●		
Spring Creek	121600010290	PPWS	CWAC	●	PBCR		●	HQW	
Snake Creek	121600010330		CWAC	●	PBCR		●	HQW	
Little Spring Creek	121600010340	PPWS	CWAC	●	PBCR		●	HQW	
Double Spring Creek	121600010390	PPWS	CWAC	●	PBCR		●		
Chouteau Creek	121600010430	PPWS	WWAC	●	PBCR		●		
Tributary of Chouteau Creek at SE 1/4, Sec.13, T20N, R18E, IM	121600010435_00		WWAC	●	SBCR		●		
Tributary of Chouteau Creek at SE 1/4, Sec. 29, T20N, R19E, IM	121600010432_00		HLAC	●	SBCR		●		
Pryor Creek downstream from the road crossing in Sec. 30, T21N, R19E, IM	121610000010, 121610000050_00		WWAC	●	PBCR		●		
Pryor Creek upstream from the road crossing in Sec. 30, T21N, R19E, IM to the road crossing in Sec. 12, T21N, R18E, IM	121610000050_10	PPWS	WWAC	●	PBCR		●		
Pryor Creek upstream from the road crossing in Sec. 12, T21N, R18E, IM	121610000090_00, 121610000090_10		WWAC	●	SBCR		●		
Crutchfield Branch	121600010440		WWAC	●	PBCR		●		
W.R. Holway Reservoir	121600020050	PPWS	WWAC	●	PBCR		●		
Saline Creek	121600020030	PPWS	CWAC	●	PBCR		●	HQW	
Little Saline Creek	121600020070	PPWS	CWAC	●	PBCR		●	HQW	
Horse Creek	121600030160	EWS	WWAC	●	PBCR		●		
Little Horse Creek	121600030190		WWAC		PBCR		●		
Spavinaw Creek below Spavinaw Lake dam	121600020150_00	PPWS	CWAC	●	PBCR		●		

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Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Spavinaw Lake and watershed upstream of Spavinaw Lake dam	121600050020, 121600050030, 121600050040, 121600050050, 121600050060,	PPWS	CWAC	●	PBCR		●	SWS	NLW
Eucha Lake and watershed	121600050060, 121600050070, 121600050080, 121600050090, 121600050100, 121600050110, 121600050120, 121600050130, 121600050150, 121600050170, 121600050180, 121600050190, 121600050200, 121600050210, 121600050220	PPWS	CWAC	●	PBCR		●	SWS	NLW
Brush Creek	121600050140	PPWS	CWAC	●	PBCR		●	HQW	
Beaty Creek	121600050160	PPWS	CWAC	●	PBCR		●	HQW	
Rock Creek	121600020180	PPWS	WWAC	●	PBCR		●		
Big Cabin Creek downstream from the road crossing in Sec. 10, T24N, R20E, IM	121600020190, 121600060010, 121600060060_00	PPWS	WWAC	●	PBCR		●		
Mustang Creek	121600060040		WWAC	●	PBCR		●		
Big Cabin Creek upstream from the road crossing in Sec. 10, T24N, R20E, IM to the road crossing in Sec. 8, T26N, R20E, IM	121600060060_10, 121600060220, 121600060300_00		WWAC	●	SBCR		●		
Little Cabin Creek	121600060080		WWAC	●	PBCR		●		
Bull Creek	121600060200		WWAC		PBCR		●		
Big Cabin Creek upstream from the road crossing in Sec. 8, T26N, R20E, IM	121600060300_10		WWAC	●	PBCR		●		
Drowning Creek	121600030090	PPWS	CWAC	●	PBCR		●		
Tributary of Muskrat Creek (Hollow) in Sec.36, T23N, R23E, IM (Jay Creek)	121600030120_00		HLAC	●	SBCR		●		

SDP

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Honey Creek	121600030445	PPWS	CWAC	●	PBCR		●	HQW	
Elm Creek	121600030310	PPWS	CWAC	●	PBCR		●		
Whitewater Creek	121600030320	PPWS	CWAC	●	PBCR		●		
Cave Springs Branch	121600030340	PPWS	CWAC	●	PBCR		●	HQW	
Elk River	121600030440	PPWS	CWAC	●	PBCR		●		
(Council) Hollow Creek	121600030490	PPWS	CWAC	●	PBCR		●		
Sycamore Creek	121600030510	PPWS	CWAC	●	PBCR		●		
Brush Creek	121600030520	PPWS	CWAC	●	PBCR		●		
Lost Creek	121600030560	PPWS	CWAC	●	PBCR		●		
Spring River	121600070010	PPWS	CWAC	●	PBCR		●		
Shawnee Branch	121600070020	PPWS	CWAC	●	PBCR		●		
Flint Branch	121600070040	PPWS	CWAC	●	PBCR		●		
Warren Branch	121600070050	PPWS	CWAC	●	PBCR		●	HQW	
Devil's Hollow	121600070070	PPWS	CWAC	●	PBCR		●		
Five Mile Creek	121600070110	PPWS	CWAC	●	PBCR		●		
Hudson Creek	121600040040		WWAC	●	PBCR		●		
Tributary of Hudson Creek at SE 1/4, Sec. 30, T27N, R23E, IM	121600040043_00		HLAC	●	SBCR		●		
Tar Creek	121600040060		HLAC		SBCR				
Verdigris River from confluence with Arkansas River to Oologah Lake Dam	121500010010, 121500010060, 121500010200, 121500020010, 121500020120, 121500020260, 121500030010_00, 121500030010_10	PPWS	WWAC	●	PBCR	●	●		
Tributary of Verdigris River at SW 1/4, Sec. 20, T16N, R19E, IM (Okay Creek)	121500010280		HLAC	●	SBCR		●		
Coal Creek (near Wagoner)	121500010100	PPWS	WWAC	●	PBCR		●		

SOP

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Tributary of Verdigris River at SE 1/4, Sec. 34, T17N, R17E, IM (Strawberry Creek)	121500010170		HLAC	●	SBCR		●		
Coal Creek	121500010270	PPWS	WWAC	●	PBCR		●		
Inola Creek	121500020110		WWAC	●	PBCR		●		
Pea Creek	121500020100		WWAC	●	PBCR		●		
Adams Creek	121500020150	PPWS	WWAC	●	PBCR		●		
Salt Creek	121500020270		WWAC	●	SBCR		●		
Tributary of Salt Creek at NW 1/4, Sec. 1, T19N, R15E, IM	121500020275_00		HLAC	●	SBCR		●		
Dog Creek downstream from Lake Claremore	121500020360, 121500040010	PPWS	WWAC	●	PBCR		●		
Cat Creek	121500020390	EWS	WWAC	●	PBCR		●		
Tributary of Cat Creek at NW 1/4, Sec. 21, T21N, R16E, IM	121500	EWS	HLAC	●	SBCR		●		
Lake Claremore and Watershed	121500040010, 121500040020, 121500040030	PPWS	WWAC	●	PBCR		●	SWS	NLW
Chambers Creek	121500	EWS	HLAC	●	SBCR		●		
Mossy Creek	121500020430	EWS	HLAC	●	SBCR		●		
Spunky Creek	121500020480, 121500020470		WWAC	●	PBCR		●		
Tributary of Spunky Creek at Sec. 6, T19N, R15E, IM	121500020500_00		HLAC	●	SBCR		●		
Tributary of Verdigris River at Sec. 28, T20N, R15E, IM	121500020465_00		HLAC	●	SBCR		●		
Bird Creek	121300010010, 121300020010. 121300030010	PPWS	WWAC	●	PBCR		●		
Mingo Creek	121300010030	EWS	WWAC	●	PBCR		●		
Unnamed tributary of Mingo Creek	121300010035_00	EWS	HLAC	●	SBCR		●		
Elm Creek	121300010020		WWAC		PBCR		●		

SUBJECT

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Owasso Creek	121300010055_00		HLAC	●	SBCR		●		
Tributary of Owasso Creek at SE1/4, Sec. 31, T21N, R14E, IM	121300010057_00		HLAC	●	SBCR		●		
Ranch Creek	121300010060		WWAC		PBCR		●		
Lake Yahola and Watershed	121300010130	PPWS	WWAC	●	PBCR		●	SWS	
Flat Rock Creek	121300010120		WWAC	●	SBCR		●		
Tributary of Flat Rock Creek at SE 1/4, Sec. 18, T20N, R13E, IM (Dirty Butter Creek)	121300010140		HLAC	●	SBCR		●		
Delaware Creek	121300010150	PPWS	WWAC	●	PBCR		●		
Hominy Creek downstream from Skiatook Lake	121300040010, 121300040070	PPWS	WWAC	●	PBCR		●		
Hominy Creek upstream from and including Skiatook Lake	121300040070, 121300040080, 121300040280	PPWS	WWAC	●	PBCR		●	SWS	
Claremore Creek	121300040320	PPWS	WWAC	●	PBCR		●		
Hominy Municipal Lake and Watershed	121300040320, 121300040330	PPWS	WWAC	●	PBCR		●	SWS	
Candy Creek	121300020080	PPWS	WWAC	●	PBCR		●		
Pecan Hollow Creek	121300020090	PPWS	WWAC	●	PBCR		●	SWS	
Avant Public Utility Lake	121300020100	PPWS	WWAC	●	PBCR		●		
Waxoma Lake	121300020190	PPWS	WWAC	●	PBCR		●		
Tributary of Bird Creek at Sec. 19, T24N, R11E, IM	121300030070_00		HLAC	●	SBCR		●		
Birch Creek downstream from Birch Reservoir	121300030020	PPWS	WWAC	●	PBCR		●		
Birch Reservoir and Watershed	121300030020, 121300030030, 121300030040, 121300030050	PPWS	WWAC	●	PBCR		●	SWS	
Tributary of Birch Creek at Sec. 14, T24N, R9E, IM	121300030055_00		HLAC	●	SBCR		●	SWS	

SIDP

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Clear Creek	121300030200	PPWS	WWAC	●	PBCR		●		
Pawhuska Lake	121300030230	PPWS	WWAC	●	PBCR		●		
Bluestem Lake and Watershed	121300030280, 121300030290, 121300030300, 121300030310	PPWS	WWAC	●	PBCR		●	SWS	
Tributary of Verdigris River at Sec. 11, T21N, R15E, IM (Keetonville Creek)	121500030050		HLAC	●	SBCR		●		
Caney River from the mouth to the Kansas State Line	121400010010, 121400020010, 121400030010	PPWS	WWAC	●	PBCR		●		
Hulah Lake and watershed	121400030010, 121400030020, 121400030030, 121400030040, 121400030050, 121400030060, 121400030080, 121400030090, 121400030100, 121400030110, 121400030120, 121400030130, 121400030140, 121400030150, 121400030160, 121400030170, 121400030180, 121400030190, 121400030200	PPWS	WWAC	●	PBCR		●		NLW
Rabb Creek	121400010090	PPWS	WWAC	●	PBCR		●		
Nellie Bly Creek	121400010180	PPWS	WWAC	●	PBCR		●		
Hogshooter Creek	121400010300		WWAC		PBCR		●		
Keeler Creek	121400010320		WWAC	●	PBCR		●		
Tributary of Keeler Creek at NW 1/4 Sec. 19, T25N, R13E, IM (East Keeler Creek)	121400010322		HLAC	●	SBCR		●		
Sand Creek	121400040010	PPWS	WWAC	●	PBCR		●		
Buck Creek	121400040050	PPWS	WWAC	●	PBCR		●		
Coon Creek	121400020040	PPWS	WWAC	●	PBCR		●		

SUP

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Deer Creek	121400020050		WWAC	●	PBCR		●		
Lake Hudson on Butler Creek	121400020090	PPWS	WWAC	●	PBCR		●		
Little Caney River including Copan Lake and Watershed	121400020140, 121400050010, 121400050020, 121400050030, 121400050040, 121400050050, 121400050060, 121400050070, 121400050080	PPWS	WWAC	●	PBCR		●	SWS	
Pond Creek	121400030090	PPWS	WWAC	●	PBCR		●		
Buck Creek	121400030170	PPWS	WWAC	●	PBCR		●		
Fourmile Creek	121500030070		WWAC	●	PBCR		●		
Verdigris River from and including Oologah Lake to the Kansas State Line	121510010010, 121510010020, 121510020010	PPWS	WWAC	●	PBCR	●	●		
Blue Creek	121510010030	PPWS	WWAC	●	PBCR		●		
Spencer Creek including Chelsea Reservoir and Watershed	121510010040, 121510010060	PPWS	WWAC	●	PBCR		●	SWS	
Lightning Creek	121510010130	PPWS	WWAC	●	PBCR		●		
Salt Creek	121510010190	PPWS	WWAC	●	PBCR		●		
Big Creek	121510030010	PPWS	WWAC	●	PBCR		●		
California Creek	121510020050	PPWS	WWAC	●	PBCR		●		
Tributary to Oologah Lake NW 1/4, Sec. 5, T26N, R16E, IM (Delaware Creek)	121510020060	EWS	HLAC	●	SBCR		●		
Snow Creek	121510020250	PPWS	WWAC	●	PBCR		●		
Onion Creek	121510020340	PPWS	WWAC	●	PBCR		●		

SUPP

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Arkansas River from mouth of Verdigris River to Keystone Dam	120410010010, 120410010080_00, 120410010080_10, 120420010010_00, 120420010010_10, 120420010130	EWS	WWAC	●	PBCR	●	●		
Pecan Creek	120410010030	PPWS	WWAC	●	PBCR		●		
Cloud Creek	120410010100, 120410020010	PPWS	WWAC	●	PBCR		●		
Ash Creek	120410010110	PPWS	WWAC	●	PBCR		●		
Mountain Creek including Bixhoma Lake	120410010180	PPWS	WWAC	●	PBCR		●		
Snake Creek	120410010220	PPWS	WWAC	●	PBCR		●		
Rock Creek	120410030020	PPWS	WWAC	●	PBCR		●		
Lake Boren	120410030080	PPWS	WWAC	●	PBCR		●		
Posey Creek	120420010030		WWAC	●	PBCR		●		
Polecat Creek downstream from Heyburn Lake	120420020050_00, 120420020050_10, 120420020290		WWAC	●	PBCR		●		
Coal Creek downstream from Sec. 35, T18N, R12E, IM	120420020030_00	PPWS	WWAC	●	PBCR		●		
Coal Creek upstream from Sec. 35, T18N, R12E, IM	120420020030_10	PPWS	HLAC	●	PBCR		●		
Rock Creek downstream from Sahoma Lake	120420020060, 120420020120		WWAC	●	PBCR		●		
Country Club Lake (Middle Lake)	120420020090	PPWS	WWAC	●	PBCR		●		
Sapulpa Lake	120420020110	PPWS	WWAC	●	PBCR		●		
Childress Creek	120420020160		HLAC	●	SBCR		●		
Jackson Creek	120420020200	PPWS	WWAC	●	PBCR		●		
Little Polecat Creek	120420020260		WWAC	●	SBCR		●		

OSD

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Sahoma Lake and Watershed	120420020120, 120420020130, 120420020140	PPWS	WWAC	●	PBCR		●	SWS	
Heyburn Lake and Watershed	120420020290, 120420020300, 120420020310, 120420020320, 120420020330, 120420020340, 120420020350, 120420020360, 120420020370, 120420020380, 120420020390, 120420020400, 120420020410	PPWS	WWAC	●	PBCR		●	SWS	
Shell Creek downstream from Shell Lake	120420010230	PPWS	WWAC	●	PBCR		●		
Shell (Creek) Lake and Watershed	120420010230, 120420010240 120420010250, 120420010260, 120420010270	PPWS	WWAC	●	PBCR		●	SWS	

SUP

APPENDIX A.2

Designated Beneficial Uses of Surface Waters
Water Quality Management Basin 2, Lower Arkansas River Basin

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Arkansas River from the Arkansas State Line to the mouth of the Canadian River including R.S. Kerr Reservoir	220200010010, 220200020010, 220200020020	PPWS	WWAC	●	PBCR	●	●		
Lee Creek downstream from the 420 ft. elevation level	220200050010_00	PPWS	CWAC	●	PBCR		●	HQW	HQW
Lee Creek upstream from the 420 ft. elevation level	220200050010_10	PPWS	CWAC	●	PBCR		●	ORW	Scenic River(1)
Webber(s) Creek	220200050020	PPWS	CWAC	●	PBCR		●	ORW	
Briar Creek (Bear Creek)	220200050030	PPWS	CWAC	●	PBCR		●	ORW	
Little Lee Creek	220200050040	PPWS	CWAC	●	PBCR		●	ORW	Scenic River
Jenkins Creek	220200050050	PPWS	CWAC	●	PBCR		●	ORW	
Poteau River downstream from Brazil Creek	220100010010	PPWS	WWAC	●	PBCR		●		
Tributary of Cedar Creek at Sec. 8, T9N, R27E, IM	220100010030		WWAC	●	PBCR		●		
Hoil-Tuska Creek including New Spiro Lake	220100010050	PPWS	WWAC	●	PBCR		●	SWS	NLW
James Fork	220100010070	PPWS	WWAC	●	PBCR		●		
Brazil Creek	220100030010	PPWS	WWAC	●	PBCR		●		
Red Oak Pit	220100	PPWS	WWAC	●	PBCR		●		
Poteau River upstream from Brazil Creek	220100010010, 220100020010_10	PPWS	WWAC	●	PBCR		●		

SUBP

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Wister Lake and watershed	220100020010, 220100020020, 220100020030, 220100020040, 220100020050, 220100020070, 220100020080, 220100020090, 220100020100, 220100020110, 220100040010, 220100040020, 220100040030, 220100040040, 220100040050, 220100040060, 220100040070, 220100040080, 220100040090, 220100040110, 220100040120, 220100040160, 220100040170, 220100040180	PPWS	WWAC	●	PBCR		●		NLW
Riddle Creek	220100010120		HLAC	●	SBCR		●		
Tributary of Riddle Creek at SE 1/4 Sec. 4, T07N, R26E, IM (Cameron Creek)	220100010130		HLAC	●	SBCR		●		
Sugarloaf Creek	220100010160	PPWS	WWAC	●	PBCR		●		
Morris Creek	220100010170		WWAC	●	PBCR		●		
Caston Creek	220100010180	PPWS	WWAC	●	PBCR		●		
Coal Creek	220100010200	EWS	WWAC	●	PBCR		●		
Fourche Maline Creek including Lake Wayne Wallace	220100040010, 220100040020, 220100040150	PPWS	WWAC	●	PBCR		●		
Little Fourche Maline Creek	220100040070	PPWS	WWAC	●	PBCR		●		
Red Oak Creek	220100040050		WWAC		PBCR		●		
Bandy Creek	220100040080		WWAC	●	PBCR		●		
Tributary of Bandy Creek at NE 1/4, Sec. 17, T5N, R19E, IM	220100		WWAC	●	SBCR		●		
Lloyd Church Lake and Watershed	220100040090, 220100040100	PPWS	WWAC	●	PBCR		●	SWS	
Tributary to Bandy Creek (Cunneo Bandy)	220100040090	PPWS	WWAC	●	PCBR		●		
Tributary of Fourche Maline Creek at SE 1/4, Sec. 12, T5N, R19E, IM	220100040110		HLAC	●	SBCR		●		

SUP

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Coon Creek Lake and Watershed	220100040120, 220100040130	PPWS	WWAC	●	PBCR		●	SWS	
Lake Wayne Wallace	220100040150	PPWS	WWAC	●	PBCR		●		
Black Fork downstream from Cedar Creek	220100020030, 220100020040	PPWS	WWAC	●	PBCR		●		
Black Fork upstream from Cedar Creek	220100020040	PPWS	CWAC	●	PBCR		●	HQW	
Cedar Creek including Cedar Lake	220100020050, 220100020060	PPWS	WWAC	●	PBCR		●		
Shawnee Creek	220100020070	PPWS	WWAC	●	PBCR		●		
Big Creek	220100020080	PPWS	CWAC	●	PBCR		●		
Tributary of Big Creek at NE 1/4, Sec. 22, T3N, R26E, IM	220100020090	EWS	WWAC	●	PBCR		●		
Oil Branch	220100020100		WWAC	●	PBCR		●		
Garrison Creek	220200050060	PPWS	WWAC	●	PBCR		●		
Unnamed tributary of Garrison Creek at ~~sect.~~Sec.18, T11N, R27E, IM	220200050070_00		HLAC		SBCR		●		
Camp Creek	220200010020	PPWS	CWAC	●	PBCR		●		
Big Skin Bayou Creek	220200010030	PPWS	WWAC	●	PBCR		●		
Muldrow City Lake	220200010025_00	PPWS	WWAC	●	PBCR		●		
Cache Creek	220200010060	PPWS	WWAC	●	PBCR		●		
Onion Creek	220200010100		HLAC	●	SBCR		●		
Sans Bois Creek	220200040010	PPWS	WWAC	●	PBCR		●		
Lake John Wells and Watershed	220200040030	PPWS	WWAC	●	PBCR		●	SWS	
Beaver Creek	220200040060	EWS	WWAC	●	PBCR		●		
Sallisaw Creek downstream from U.S. Hwy. 64	220200030010_10	PPWS	CWAC	●	PBCR		●		
Shilo(h) Branch	220200030020		WWAC	●	PBCR		●		
Tributary of Shilo Branch at SW 1/4, Sec. 1, T11N, R23E, IM	220200030035_00		HLAC	●	SBCR		●		
Little Sallisaw Creek (Cedar Creek)	220200020040	PPWS	WWAC	●	PBCR		●		

DRAFT

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Sallisaw Creek upstream from U.S. Hwy 64	220200030010_10, 220200030010_20, 220200030010_30	PPWS	CWAC	●	PBCR		●	HQW	
Stillwell City Lake	220200030120	PPWS	WWAC	●	PBCR		●		
Brushy Creek downstream from Brushy (Creek) Reservoir	220200030030	PPWS	CWAC	●	PBCR		●		
Brushy (Creek) Reservoir and Watershed	220200030030, 220200030040, 220200030050	PPWS	CWAC	●	PBCR		●	SWS	
Greasy Creek	220200030080	PPWS	CWAC	●	PBCR		●		
Vian Creek	220200020130	PPWS	CWAC	●	PBCR		●		
Little Vian Creek	220200020140	PPWS	CWAC	●	PBCR		●		
Canadian River from mouth to Eufaula Lake Dam	220300000010	PPWS	WWAC	●	PBCR	●	●		
Taloka Creek	220300000020	PPWS	WWAC	●	PBCR		●		
Snake Creek	220300000030		WWAC	●	SBCR		●		
Emachaya Creek	220300000040	PPWS	WWAC	●	PBCR		●		
Canadian River including Eufaula Lake (excluding the North Canadian River) to its confluence with Little River	220600010020, 220600010050, 220600010060, 220600010119, 220600050010	PPWS	WWAC	●	PBCR		●		
Mud Creek	220600050060	PPWS	WWAC	●	PBCR		●		
Longtown Creek	220600010070	PPWS	WWAC	●	PBCR		●		
Gibson Creek	220600050020		HLAC	●	SBCR		●		
Tributary of Gibson Creek at NW NW Sec. 18, T8N, R16E, IM	220600050023_00		HLAC	●	SBCR		●		
Gaines Creek	220600040010	PPWS	WWAC	●	PBCR		●		
Coal Creek	220600020010	PPWS	WWAC	●	PBCR		●		
Talawanda Lakes #1 and #2	220600020050, 220600020060	PPWS	WWAC	●	PBCR		●		
Lake McAlester and Watershed	220600020020, 220600020030	PPWS	WWAC	●	PBCR		●	SWS	
Deer Creek	220600020080		WWAC	●	PBCR		●		
Sandy Creek	220600020090		WWAC	●	SBCR		●		

SUP

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Tributary of Sandy Creek at NW 1/4, Sec. 3, T5N, R14E, IM	220600020093_00		WWAC	●	SBCR		●		
Tributary of Coal Creek at SW NW SW Sec. 18, T5N, R12E, IM	220600		HLAC	●	SBCR		●		
Ash Creek	220600050040	PPWS	WWAC	●	PCBR		●		
Mud Creek	220600050060		WWAC	●	PBCR		●		
Brushy Creek	220600030010	PPWS	WWAC	●	PBCR		●		
Blue Creek	220600030020	PPWS	WWAC	●	PBCR		●		
Peaceable Creek	220600030050	PPWS	WWAC	●	PBCR		●		
Chun Creek upstream from Sec. 15, T4N, R14E, IM	220600030060_10	EWS	WWAC	●	SBCR		●		
Tributary of Chun Creek at SW 1/4, Sec. 16, T4N, R14E, IM	220600030065_00		HLAC	●	SBCR		●		
Chun Creek in and downstream from Sec. 15, T4N, R14E, IM	220600030060_00	EWS	WWAC	●	PBCR		●		
Bull Creek downstream from Brown Lake	220600030080		WWAC	●	PBCR		●		
Brown Lake and Watershed	220600030080, 220600030090	PPWS	WWAC	●	PBCR		●	SWS	
Mill Creek	220600010100_10, 220600010100_20	PPWS	WWAC	●	PCBR		●		
Big Creek	220600010170		WWAC	●	PBCR		●		
Unnamed tributary of Canadian River at SE 1/4, Sec. 22, T6N, R10E, IM	220600010128_00		HLAC	●	SBCR		●		

SUBJ

APPENDIX A.3
Designated Beneficial Uses of Surface Waters
Water Quality Management Basin 3, Upper Red River Basin

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Lake Texoma	311100010020, 311100010030, 311100010080, 310800010011, 310800010050	PPWS	WWAC	●	PBCR		●		
Glasses Creek including Carter Lake	310800010020, 310080010040	PPWS	WWAC	●	PBCR		●		
Tributary at Old Channel Washita, NE 1/4, Sec. 33, T5S, R7E, IM	310800010055_00	EWS	HLAC	●	SBCR		●		
Pennington Creek	310800010120	PPWS	CWAC	●	PBCR		●	HQW	
Spring Creek	310800010160	PPWS	WWAC	●	PBCR		●		
Mill Creek	310800010190	PPWS	WWAC	●	PBCR		●		
Tributary of Three Mile Creek at SW Sec. 7, T2S, R5E, IM to SE Sec. 12, T2S, R4E, IM	310800010205		HLAC	●	SBCR		●		
Washita River from Lake Texoma including Foss Reservoir	310800010010, 310800020010, 310810010010, 310810020010, 310820010010, 310830010010, 310830020010, 310830030010, 310840010010, 310840010020, 310840020010	PPWS	WWAC	●	PBCR		●		
Cool Creek	310800020010	PPWS	WWAC	●	PBCR		●		
Oil Creek	310800010240	PPWS	WWAC	●	PBCR		●		
Caddo Creek	310800030010	PPWS	WWAC	●	PBCR		●		
Sand Creek	310800030020		WWAC	●	PBCR		●		
Unnamed tributary to Caddo Creek	310800030035		HLAC		SBCR				
Ardmore City Lake	310800030070		WWAC	●	PBCR		●		
Rock Creek downstream from Lake Scott King Dam	310800030100	PPWS	WWAC	●	PBCR		●		

SUP

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Lake Scott King (Rock Creek Reservoir) including Watershed	310800030100, 310800030110, 310800030120	PPWS	WWAC	●	PBCR		●	SWS	
Lake Jean Neustadt	310800030140	PPWS	WWAC	●	PBCR		●		
Hickory Creek downstream from Mountain Lake	310800030190_00	PPWS	WWAC	●	PBCR		●		
Mountain Lake and Watershed	310800030190, 310800030200, 310800030210	PPWS	WWAC	●	PBCR		●	SWS	
Rock Creek including Lake of the Arbuckles	310800020080, 310800020090, 310800020100, 310800020122	PPWS	WWAC	●	PBCR		●	SWS	
Guy Sandy Creek	310800020130	PPWS	WWAC	●	PBCR		●	HQW	
Falls Creek	310800020140	PPWS	WWAC	●	PBCR		●		
Dry Sandy Creek	310800020150	PPWS	WWAC	●	PBCR		●		
Tributary of Dry Sandy Creek at Sec. 7, T1S, R2E, IM	310800020152_00		HLAC	●	SBCR		●		
Honey Creek	310800020160	PPWS	WWAC	●	PBCR		●	HQW	
Chigley Sandy Creek	310800020190	PPWS	WWAC	●	PBCR		●		
Wildhorse Creek	310810010020, 310810030010, 310810040010, 310810040140	PPWS	WWAC	●	PBCR		●		
Sandy Creek	3108100030020	PPWS	WWAC	●	PBCR		●		
Rock Creek	310810030040	PPWS	WWAC	●	PBCR		●		
Elmore City Lake	310810030060	PPWS	WWAC	●	PBCR		●		
Salt Creek	310810030080	PPWS	WWAC	●	PBCR		●		
Black Bear Creek downstream from Lake Fuqua	310810040030, 310810040040	PPWS	WWAC	●	PBCR		●		
Lake Fuqua and Watershed	310810040030, 310810040040, 310810040050	PPWS	WWAC	●	PBCR		●	SWS	
Duncan Lake and Watershed	310810040070, 310810040080, 310810040090	PPWS	WWAC	●	PBCR		●	SWS	
Clear Creek downstream from Clear Creek Lake	310810040130	PPWS	WWAC	●	PBCR		●		
Clear Creek Lake and Watershed	310810040110, 310810040120, 310810040130	PPWS	WWAC	●	PBCR		●	SWS	

SIP

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Lake Humphreys and Watershed	310810040140, 310810040150, 310810040160	PPWS	WWAC	●	PBCR		●	SWS	
Kickapoo Sandy Creek	310810010050	PPWS	WWAC	●	PBCR		●		
Turkey Sandy Creek	310810010060		WWAC	●	PBCR		●		
Tributary of Turkey Sandy Creek at SE 1/4, Sec. 26, T2N, R1E, IM	310810010062_00		WWAC	●	PBCR		●		
W. Sandy Creek (upper) upstream from Sec. 34, T2N, R1E, IM	310810010065_10		HLAC	●	SBCR		●		
W. Sandy Creek (lower) downstream from Sec. 27, T2N, R1E, IM	310810010065_00		WWAC	●	PBCR		●		
Red Branch	310810010070		WWAC	●	SBCR		●		
Rush Creek downstream from U.S. Hwy. 77 near Pauls Valley	310810010090_00		WWAC	●	SBCR		●		
Rush Creek upstream from U.S. Hwy. 77 near Pauls Valley	310810010090_10, 310810050010		WWAC	●	PBCR		●		
Taylor (Marlow) Lake near Rush Springs	310810050060	PPWS	WWAC	●	PBCR		●		NLW
Cherokee Sandy Creek	310810010100	PPWS	WWAC	●	PBCR		●		
R. C. Longmire Lake	310810010186		WWAC	●	PBCR		●		
Peavine Creek	310810010120	PPWS	WWAC	●	PBCR		●		
Washington Creek	310810010170, 310810010190	PPWS	WWAC	●	PBCR		●		
Pauls Valley Lake and Watershed	310810010170, 310810010180, 310810010190	PPWS	WWAC	●	PBCR		●	SWS	
Owl Creek	310810010200		WWAC	●	PBCR		●		
Wiley Post Memorial Lake	310810010220	PPWS	WWAC	●	PBCR		●		
Beef Creek	310810010230	EWS	HLAC	●	SBCR		●		
Tributary of Beef Creek at SE 1/4, Sec.15, T4N, R2W, IM	310810010232_00	EWS	HLAC	●	SBCR		●		
Finn Creek	310810020020	PPWS	WWAC	●	PBCR		●		
Criner Creek	310810020050	PPWS	WWAC	●	PBCR		●		

SUBP

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Colbert Creek	310810020160	PPWS	WWAC	●	PBCR		●		
Roaring Creek	310810020170	PPWS	WWAC	●	PBCR		●		
East Roaring Creek	310810020180		WWAC		PBCR		●		
Laflin Creek	310810020200	PPWS	WWAC	●	PBCR		●		
Winter Creek	310810020220	PPWS	WWAC	●	PBCR		●		
Little Washita River	310820020010	PPWS	WWAC	●	PBCR		●		
Lake Burtschi	310800020070		WWAC	●	PBCR		●		
Gladys Creek downstream from U.S. Hwy. 277	310820020150_00		HLAC	●	SBCR		●		
Gladys Creek upstream from U.S. Hwy. 277	310820020150_10	PPWS	WWAC	●	PBCR		●		
Bitter Creek	310820010030	PPWS	WWAC	●	PBCR		●		
East Fork of Bitter Creek	310820010040	PPWS	WWAC	●	PBCR		●		
West Fork of Bitter Creek	310820010060	PPWS	WWAC	●	PBCR		●		
Tributary of Washita River at NE 1/4, Sec. 35, T7N, R7W, IM	310820		HLAC	●	SBCR		●		
Ionine Creek	310820010160	PPWS	WWAC	●	PBCR		●		
Jack Hollow Creek	310820010170	PPWS	WWAC	●	PBCR		●		
Spring Creek including Lake Chickasha	310830040010, 310830040020	PPWS	WWAC	●	PBCR		●		NLW
Stinking Creek	310830040030	PPWS	WWAC	●	PBCR		●		
Delaware Creek	310830010030		WWAC	●	SBCR		●		
Sugar Creek	310830050010		WWAC	●	SBCR		●		
Tributary of Sugar Creek at NW 1/4, Sec. 29, T11N, R11W, IM	310830		HLAC	●	SBCR		●		
Cobb Creek downstream from Fort Cobb Reservoir	310830060010	PPWS	WWAC	●	PBCR		●		

SUBJECT

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Fort Cobb Lake and Watershed including Crowder Lake and watershed	310830060010, 310830060020, 310830060030, 310830060040, 310830060050, 310830060060, 310830060070, 310830060080, 310830060090, 310830060100, 310830060110, 310830060120, 310830060130, 310830060140	PPWS	WWAC	●	PBCR		●	SWS	NLW
Lake Creek	310830060040	PPWS	WWAC	●	PBCR		●	SWS	
Stinking Creek	310830020020	PPWS	WWAC	●	PBCR		●		
Rainy Mountain Creek downstream from S.H. 9	310830020060_00		WWAC	●	PBCR		●		
Rainy Mountain Creek upstream from S.H. 9	310830020060_10		WWAC	●	SBCR		●		
Oak Creek	310830020090	PPWS	WWAC	●	PBCR		●		
Lake Vanderwork and watershed	310830020100, 310830020110		WWAC	●	PBCR		●		NLW
Two Baby Creek	310830030060		WWAC	●	PBCR		●		
Cavalry Creek	310830030070	PPWS	WWAC	●	PBCR		●		
South Fork of Cavalry Creek	310830030080		WWAC	●	PBCR		●		
N. Cavalry Creek	310830030090	EWS	HLAC	●	SBCR		●		
Tributary to N. Cavalry Creek at NW 1/4, Sec. 11, T9N, R17W, IM	310830030095_00	EWS	HLAC	●	SBCR		●		
Boggy Creek	310830030100		WWAC	●	PBCR		●		
Beaver Creek	310830030190		WWAC	●	SBCR		●		
Barnitz Creek	310830030200	PPWS	WWAC	●	PBCR		●		
East Barnitz Creek	310830030210	PPWS	WWAC	●	PBCR		●		
West Barnitz Creek	310830030230	PPWS	WWAC	●	PBCR		●		
Turkey Creek downstream from Clinton Lake	310830030260		WWAC	●	PBCR		●		
Clinton Lake	310830030280	PPWS	WWAC	●	PBCR		●	SWS	NLW
Oak Creek	310830030310	PPWS	WWAC	●	PBCR		●		
Panther Creek	310840010050	PPWS	WWAC	●	PBCR		●		
Quartermaster Creek	310840010060	PPWS	WWAC	●	PBCR		●		

OWRB

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Tributary of Quartermaster Creek at Sec. 17, T16N, R20W, IM (North Branch)	310840010080		HLAC	●	SBCR		●		
Hay Creek	310840010100	PPWS	WWAC	●	PBCR		●		
White Shield Creek	310840010120		HLAC	●	SBCR		●		
Sandstone Creek	310840020020, 310840020070	PPWS	WWAC	●	PBCR		●		
Dead Indian Creek	310840020120	PPWS	WWAC	●	PBCR		●		
Sergeant Major Creek	310840020140	PPWS	HLAC	●	SBCR		●		
Croton Creek	310840020190	PPWS	WWAC	●	PBCR		●		
Rush Creek	310840020210	PPWS	WWAC	●	PBCR		●		
Buncombe Creek	311100010070	PPWS	WWAC	●	PBCR		●		
Hauani Creek including Hauani Lake	311100010130, 311100010140	PPWS	WWAC	●	PBCR		●		
Hickory Creek	311100020010	PPWS	WWAC	●	PBCR		●		
Anadarche Creek downstream from Lake Murray	311100020020	PPWS	WWAC	●	PBCR		●		
Lake Murray and Watershed	311100020020, 311100020030, 311100020040, 311100020050, 311100020060, 311100020070, 311100020080, 311100020090	PPWS	WWAC	●	PBCR		●	SWS	
Red River from headwaters of Lake Texoma to Cache Creek	311100010190, 311200000010	PPWS	WWAC	●	PBCR		●		
Walnut Bayou	311100030010, 311100010250	PPWS	WWAC	●	PBCR		●		
Simon Creek	311100030020	PPWS	WWAC	●	PBCR		●		
Walnut Creek	311100030070	PPWS	WWAC	●	PBCR		●		
Tributary of Walnut Creek at Sec. 28, T4S, R2W, IM	311100030180_00		HLAC	●	SBCR		●		
Healdton Lake	311100030130	PPWS	WWAC	●	PBCR		●		
Whiskey Creek	311100030140		HLAC	●	SBCR		●		
Cottonwood Creek	311100030090	PPWS	WWAC	●	PBCR		●		

DRAFT

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Tributary of Cottonwood Creek at Sec. 28, T4S, R1W, IM	311100030190_00		HLAC	●	SBCR		●		
Bull Creek	311100030060		HLAC	●	SBCR		●		
Mud Creek	311100040010	PPWS	WWAC	●	PBCR		●		
Clear Creek	311100040020	PPWS	WWAC	●	PBCR		●		
North Mud Creek	311100040030	PPWS	HLAC	●	PBCR		●		
Tributary of North Mud Creek at SW 1/4, Sec. 34, T4S, R4W, IM	311100040035_00		HLAC	●	SBCR		●		
West Mud Creek	311100040200	PPWS	WWAC	●	PBCR		●		
Negro Creek	311100040100	PPWS	WWAC	●	PBCR		●		
Willow Branch	311100040110	PPWS	WWAC	●	PBCR		●		
Crooked Creek	311100040120	PPWS	WWAC	●	PBCR		●		
Deer Creek	311100040130	PPWS	WWAC	●	PBCR		●		
Comanche Lake	311100040170		WWAC	●	PBCR		●		
Red Creek	311100010290	PPWS	WWAC	●	PBCR		●		
Fleetwood Creek	311100010300	PPWS	WWAC	●	PBCR		●		
Beaver Creek downstream from Waurika Lake	311200000030, 311200000010	PPWS	WWAC	●	PBCR		●		
Cow Creek	311200000060	EWS	WWAC	●	PBCR		●		
Dry Creek	311200000080	PPWS	WWAC	●	PBCR		●		
Cotton Creek	311200000090	PPWS	WWAC	●	PBCR		●		
Claridy (Clarity) Creek	311200000110	EWS	WWAC		PBCR		●		
East Cow Creek	311200000100	EWS	HLAC	●	SBCR		●		
Tributary of East Cow Creek SW 1/4, Sec. 15, T1S, R7W, IM	311200000160_00	EWS	HLAC	●	SBCR		●		
Beaver Creek upstream from and including Waurika Lake	311210000010, 311210000020	PPWS	WWAC	●	PBCR		●	SWS	
Walker Creek	311210000030	PPWS	WWAC	●	PBCR		●	SWS	
Little Beaver Creek	311210000050	PPWS	WWAC	●	PBCR		●	SWS	
Stage Stand Creek	311210000060	PPWS	WWAC	●	PBCR		●	SWS	

SAMPLE

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Hell Creek	311210000080	PPWS	WWAC	●	PBCR		●	SWS	
Ninemile Beaver Creek	311210000130	PPWS	WWAC	●	PBCR		●		
Cache Creek	311300010010	PPWS	WWAC	●	PBCR		●		
West Cache Creek downstream from Panther Creek	311310020010, 311310020020, 311310020140	PPWS	WWAC	●	PBCR		●		
Deep Red Creek including Lake Fredrick	311310030010, 311310030110, 311310030120	PPWS	WWAC	●	PBCR		●		
Pecan Creek	311310020030	PPWS	WWAC	●	PBCR		●		
Little Deep Red Creek	311310030040	PPWS	WWAC	●	PBCR		●		
Jack Creek	311310030030	PPWS	WWAC	●	PBCR		●		
East Jack Creek	311310030070	PPWS	WWAC	●	PBCR		●		
Horse Creek	311310030080	PPWS	WWAC	●	PBCR		●		
Deadman Creek	311310030090	PPWS	WWAC	●	PBCR		●		
Blue Beaver Creek	311310020050, 311310020060	PPWS	WWAC	●	PBCR		●		
Post Oak Creek	311310020070	PPWS	WWAC	●	PBCR		●		
Crater Creek	311310020100	PPWS	WWAC	●	PBCR		●	HQW	
Panther Creek	311310020150	PPWS	WWAC	●	PBCR		●	HQW	
West Cache Creek upstream from Panther Creek	311310020140	PPWS	WWAC	●	PBCR		●	HQW	
East Cache Creek downstream from Lake Ellsworth	311300010020, 311300020010	PPWS	WWAC	●	PBCR		●		
Temple Lake (Mooney) and Watershed	311300010040, 311300010050	PPWS	WWAC	●	PBCR		●	SWS	
Walters Lake (Dave Boyer Lake) and Watershed	311300010070, 311300010080	PPWS	WWAC	●	PBCR		●	SWS	
Ninemile Creek	311300020030		WWAC	●	PBCR		●		
Tributary to Ninemile Creek within Sec. 23, T1N, R11W, IM including Comanche Lake	311300020032_00		WWAC		PBCR		●		
Wolf Creek	311300020040	PPWS	WWAC	●	PBCR		●		

SOP

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Medicine Creek downstream from Lake Lawtonka	311300040010, 311300040060	PPWS	WWAC	●	PBCR		●		
Elmer Thomas Lake and Watershed	311300040040, 311300040050	PPWS	WWAC	●	PBCR		●	SWS	
Lake Lawtonka and Watershed	311300040060, 311300040070, 311300040080, 311300040090, 311300040110_00, 311300040100_00	PPWS	WWAC	●	PBCR		●	SWS	
Lake Ellsworth and Watershed	311300030010, 311300030020, 311300030030, 311300030040, 311300030050, 311300030060, 311300030070, 311300030080	PPWS	WWAC	●	PBCR		●	SWS	
Red River from Cache Creek to North Fork of the Red River	311310010010	EWS	WWAC	●	PBCR		●		
Rabbit Creek	311310010020	PPWS	WWAC	●	PBCR		●		
Tributary of Red River at Sec. 29, T4S, R13W, IM	311310010035_00		HLAC	●	SBCR		●		
Blue Creek	311310010040	PPWS	WWAC	●	PBCR		●		
Suttle Creek	311310010070		WWAC	●	SBCR		●		
Tributary of Suttle Creek at SW 1/4, Sec. 20, T3S, R17W, IM	311310010090_00		HLAC	●	SBCR		●		
North Fork of the Red River including Lugert-Altus Reservoir	311500010020, 311510010010, 311510010020, 311510020010	PPWS	WWAC	●	PBCR		●		
Stinking Creek	311500010050	PPWS	WWAC	●	PBCR		●		
Tributary of Stinking Creek at SE 1/4, Sec. 30, T2N, R19W, IM	311500010055_00	EWS	HLAC	●	SBCR		●		
Otter Creek	311500010080	PPWS	WWAC	●	PBCR		●		
West Otter Creek downstream from Tom Steed Reservoir	311500020040	PPWS	WWAC	●	PBCR		●		
Tom Steed Reservoir (Mountain Park) and Watershed	311500020040, 311500020050, 311500020060, 311500020070	PPWS	WWAC	●	PBCR		●	SWS	

SUBP

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Glen Creek	311500020070	PPWS	WWAC	●	PBCR		●	SWS	
Elk Creek downstream from the confluence with Little Elk Creek	311500030010, 311500030030_00	PPWS	WWAC	●	PBCR		●		
Elk Creek from headwaters to confluence with Little Elk Creek	311500030030_10		HLAC	●	SBCR		●		
Little Elk Creek downstream from Lake Hobart	311500030040	PPWS	WWAC	●	PBCR		●		
Hobart (Rocky Hobart) Lake	311500030060	PPWS	WWAC	●	PBCR		●	SWS	NLW
Spring Creek	311500030080	PPWS	WWAC	●	PBCR		●		
Elk City Reservoir	311500030120		WWAC	●	PBCR		●		NLW
Elm Fork of the Red River	311800000010	PPWS	WWAC	●	PBCR		●		
Haystack Creek	311800000040	PPWS	WWAC	●	PBCR		●		
Deer Creek	311800000070	PPWS	WWAC	●	PBCR		●		
Fish Creek	311800000130	PPWS	WWAC	●	PBCR		●		
Bull Creek	311800000150	PPWS	WWAC	●	PBCR		●		
North Elm Creek (West Elm Creek)	311800000170	PPWS	WWAC	●	PBCR		●		
Flat Creek	311510010070		WWAC	●	PBCR		●		
Timber Creek	311510010090	PPWS	WWAC	●	PBCR		●		
Sand Creek	311510020040	PPWS	WWAC	●	PBCR		●		
Long Creek	311510020050	PPWS	WWAC	●	PBCR		●		
Turkey Creek	311510020060	PPWS	WWAC	●	PBCR		●		
Starvation Creek	311510020070	PPWS	WWAC	●	PBCR		●		
Buffalo Creek	311510020090	PPWS	WWAC	●	PBCR		●		
Sweetwater Creek	311510020120	PPWS	WWAC	●	PBCR		●		
Red River from confluence of the North Fork of the Red River to Buck Creek	311600010010	EWS	WWAC	●	PBCR		●		
Salt Fork of the Red River to the Texas State Line	311600020010	PPWS	WWAC	●	PBCR		●		
Turkey Creek	311600020060	PPWS	WWAC	●	PBCR		●		

SUP

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Bitter Creek downstream of the boundary of Sec. 3 & 2, T1N, R21W, IM	311600020110_00	EWS	WWAC	●	SBCR		●		
Bitter Creek upstream of the boundary of Sec. 3 & 2, T1N, R21W, IM	311600020110_05, 311600020110_10	EWS	HLAC	●	SBCR		●		
Gypsum Creek	311600010020	PPWS	WWAC	●	PBCR		●		
Sandy Creek (Lebos)	311600010040	EWS	HLAC	●	SBCR		●		
Lebos Creek	311600010060_00		HLAC	●	SBCR		●		
Tributary of Lebos Creek at Sec. 2, T2N, R26W, IM	311600010065_00		HLAC	●	SBCR		●		
Prairie Dog Town Fork of the Red River from confluence of Buck Creek to 100 degree West Longitude	311600010080	EWS	WWAC	●	PBCR		●		

SUPR

APPENDIX A.4
Designated Beneficial Uses of Surface Waters
Water Quality Management Basin 4, Lower Red River

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Red River from the Arkansas State Line to the Kiamichi River	410100010010	PPWS	WWAC	●	PBCR		●		
Norwood Creek	410100010050	PPWS	WWAC	●	PBCR		●		
Waterhole Creek	410100010340	PPWS	WWAC	●	PBCR		●		
Buzzard Creek	410100010450		WWAC	●	PBCR		●		
Tributary of Buzzard Creek at NW 1/4, Sec. 5, T7S, R22E, IM (Millerton Trib)	410100010456_00		HLAC	●	SBCR		●		
Garland Creek	410100010460		WWAC		PBCR				
Tributary of Garland Creek at SE 1/4, Sec. 34, T6S, R21E, IM (Valiant Creek)	410100010470		HLAC	●	SBCR		●		
Little River from the Arkansas State Line to Pine Creek Dam	410200010010, 410200010200, 410210010010, 410210020010	PPWS	CWAC	●	PBCR		●	HQW	
Rock Creek	410200010220	PPWS	CWAC	●	PBCR		●		
Mountain Fork River downstream from U.S. Hwy 70 bridge	410210040010_00	PPWS	CWAC	●	PBCR		●	HQW	
Mountain Fork River upstream from U.S. Hwy 70 bridge to Broken Bow Dam	410210040010_10, 410210040050, 410210050010	PPWS	Trout	●	PBCR		●	HQW	
Upper Mountain Fork River from Dam including Broken Bow Lake to the 600 foot elevation level	~~410210050010,~~ 410210050020, 410210060010_00	PPWS	CWAC	●	PBCR		●	SWS	
Egypt Creek	410210050140	PPWS	CWAC	●	PBCR		●	SWS	
Otter Creek	410210050190	PPWS	CWAC	●	PBCR		●	SWS	
Panther Creek	410210050360	PPWS	CWAC	●	PBCR		●	ORW	
Buffalo Creek	410210060020	PPWS	CWAC	●	PBCR		●	SWS	
Big Hudson	410210060030		CWAC		PBCR		●		

SUPP

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Mine Creek	410210060060		CWAC	●	PBCR		●		
Upper Mountain Fork River upstream from the 600 foot elevation level	410210060010_10	PPWS	CWAC	●	PBCR		●	ORW	Scenic River
Boktuklo Creek	410210060100	PPWS	CWAC	●	PBCR		●	ORW	
Blue Creek	410210060110	PPWS	CWAC	●	PBCR		●	ORW	
Big Eagle Creek	410210060160	PPWS	CWAC	●	PBCR		●	ORW	
Little Eagle Creek	410210060170	PPWS	CWAC	●	PBCR		●	ORW	
Dry Creek	410210060270		CWAC	●	PBCR		●		
Cucumber Creek	410210060210	PPWS	CWAC	●	PBCR		●	ORW	
Beech Creek	410210060320	PPWS	CWAC	●	PBCR		●	ORW	
Cow Creek	410210060350	PPWS	CWAC	●	PBCR		●	ORW	
Yanubbe Creek	410200010150	PPWS	CWAC	●	PBCR		●		
Tributary of Yanubbe Creek at NE 1/4, Sec. 29, T6S, R25E, IM	410200010155_00		HLAC	●	SBCR		●		
Mud Creek	410200010210	EWS	WWAC	●	SBCR		●		
Tributary of Mud Creek at SE 1/4, Sec. 31, T7S, R24E, IM	410200010218_00		HLAC	●	SBCR		●		
Yashau (Yashoo) Creek	410200010230	PPWS	CWAC	●	PBCR		●		
Lukfata Creek	410210070010	PPWS	CWAC	●	PBCR		●	HQW	
Glover River	410210080010	PPWS	CWAC	●	PBCR		●	HQW	
Cedar Creek	410210080120	PPWS	CWAC	●	PBCR		●	HQW	
Carter Creek	410210080210	PPWS	CWAC	●	PBCR		●	HQW	
Pine Creek	410210080270	PPWS	CWAC	●	PBCR		●	HQW	
West Fork	410210090070	PPWS	CWAC	●	PBCR		●	HQW	
Silver Creek	410210090100		CWAC	●	PBCR		●		
Bluff Creek	410210090160	PPWS	CWAC	●	PBCR		●	HQW	
East Fork	410210090010	PPWS	CWAC	●	PBCR		●	HQW	

SUB

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Horse Head Creek	410210010060	PPWS	WWAC	●	PBCR		●		
Tributary of Horse Head Creek at Sec. 10, T6S, R22E, IM	410210010065_00		HLAC	●	SBCR		●		
Cypress Creek	410210010070	PPWS	CWAC	●	PBCR		●	HQW	
Little River upstream from and including Pine Creek Lake	410210020010, 410210020140, 410210020020, 410210030010	PPWS	CWAC	●	PBCR		●	HQW	
Pine Creek	410210020030	PPWS	CWAC	●	PBCR		●	HQW	
Terrapin Creek	410210020150	PPWS	CWAC	●	PBCR		●	HQW	
Houston Creek	410210020210	PPWS	CWAC	●	PBCR		●	HQW	
Caney Creek	410210020240		CWAC	●	PBCR		●		
Cloudy Creek	410210020300	PPWS	CWAC	●	PBCR		●	HQW	
Jack Creek	410210020430	PPWS	CWAC	●	PBCR		●	HQW	
Black Fork	410210030020	PPWS	CWAC	●	PBCR		●	HQW	
Red River upstream from the Kiamichi River to the Blue River	410400010010	PPWS	WWAC	●	PBCR		●		
Kiamichi River including Hugo Lake to U.S. Hwy. 271 Bridge near Clayton	410300010010, 410300020010, 410300020020, 410300030010_00	PPWS	WWAC	●	PBCR		●		
Gates Creek	410300010020, 410300010030	PPWS	CWAC	●	PBCR		●		
Lake Raymond Gary	410300010040		WWAC	●	PBCR		●		
Negro Creek	410300010060		HLAC	●	SBCR		●		
Bird Creek	410300010100	PPWS	WWAC	●	PBCR		●		
Long Creek	410300020080	PPWS	WWAC	●	PBCR		●		
North Fork	410300020060	PPWS	WWAC	●	PBCR		●		
Frazier Creek	410300020130	PPWS	CWAC	●	PBCR		●		
Rock Creek	410300020190	PPWS	CWAC	●	PBCR		●		
Cedar Creek	410300030020	PPWS	CWAC	●	PBCR		●	HQW	
Beaver Creek	410300030200	PPWS	WWAC	●	PBCR		●		

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Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Tenmile Creek	410300030270	PPWS	WWAC	●	PBCR		●		
Buck Creek	410300030420	PPWS	WWAC	●	PBCR		●		
Clayton Lake and Watershed	410300030760, 410300030780	PPWS	WWAC	●	PBCR		●	SWS	
Kiamichi River upstream from U.S. Hwy 271 Bridge near Clayton	410300030010_10, 410300030570, 410310010010, 410310020010	PPWS	WWAC	●	PBCR		●		
Jackfork Creek including Sardis Lake	410310010020, 410310030020, 410310030100	PPWS	WWAC	●	PBCR		●	SWS	
Buffalo Creek	410310030030	PPWS	WWAC	●	PBCR		●	SWS	
Lake Nanih Waiya	410310010050		WWAC	●	PBCR		●		
Rock Creek	410310010170	PPWS	WWAC	●	PBCR		●		
Lake Ozzie Cobb and watershed	410300020190, 410300020220		WWAC	●	PBCR		●		NLW
Carl Albert Lake and Watershed	410310010210, 410310010220	PPWS	WWAC	●	PBCR		●	SWS	
Talihina Lake and Watershed	410310010230	PPWS	WWAC	●	PBCR		●	SWS	
Pigeon Creek	410310020110	PPWS	CWAC	●	PBCR		●		
Horse Creek downstream from the borders of Sec. 10 & 15, T7S, R17E, IM	410400010040_00	PPWS	WWAC	●	PBCR		●		
Horse Creek upstream from the borders of Sec. 10 & 15, T7S, R17E, IM	410400010040_10		WWAC	●	SBCR		●		
Tributary of Horse Creek at NE 1/4, Sec. 4, T7S, R17E, IM	410400010045_00		HLAC	●	SBCR		●		
Unnamed tributary of Red River at SW SE SE Sec. 22, T7S, R17E, IM	410400010090_00		HLAC	●	SBCR		●		
Muddy Boggy Creek	410400010070, 410400050010, 410400050270, 410400060010	PPWS	WWAC	●	PBCR		●		
Tributary of Muddy Boggy Creek at NW 1/4, Sec. 12, T2S, R11E, IM	410400050495_00		HLAC	●	SBCR		●		
Lick Creek	410400010130	PPWS	WWAC	●	PBCR		●		

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Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Clear Boggy Creek	410400020010, 410400030010, 410400030230, 410400040010	PPWS	WWAC	●	PBCR		●		
Mayhew Creek	410400020020		WWAC	●	PBCR		●		
Unnamed tributary to Mayhew Creek at Sec. 7, T6S, R14E, IM (Boswell Creek)	410400020025_00		HLAC		SBCR		●		
Caney Creek	410400030020		WWAC	●	SBCR		●		
Delaware Creek	410400030240	PPWS	WWAC	●	PBCR		●		
Sandy Creek	410400030280	PPWS	WWAC	●	PBCR		●		
Tributary of Sandy Creek at SE 1/4, Sec. 14, T2S, R8E, IM (Wapanucka Creek)	410400030290		HLAC	●	SBCR		●		
Wide Springs Branch	410400030320	PPWS	WWAC	●	PBCR		●		
Bois D' Arc Creek	410400020160		WWAC		PBCR		●		
(Byrds) Mill Creek	410400040090	PPWS	WWAC	●	PBCR		●		
McGee Creek including McGee Creek Reservoir	410400070010, 410400070020	PPWS	WWAC	●	PBCR		●	SWS	
North Boggy Creek downstream from Atoka Reservoir	410400050410_00	PPWS	WWAC	●	PBCR		●		
Tributary of North Boggy Creek at NW1/4, Sec. 29, T1S, R12E, IM	410400050415_00		HLAC	●	SBCR		●		
North Boggy Creek upstream from and including Atoka Reservoir	410400080010, 410400080020	PPWS	WWAC	●	PBCR		●	SWS	
Sub Penitentiary Lake (Blue Stem)	410400080060	PPWS	WWAC	●	PBCR		●		
Kiowa City Lake on trib to Buck Creek	410400080200	PPWS	WWAC	●	PBCR		●		
Coal Creek	410400050540	PPWS	WWAC	●	PBCR		●		
Tributary of Brier Creek at Sec. 35, T1N, R10E, IM	410400050585_00		HLAC	●	SBCR		●		
Caney Creek	410400060020	PPWS	WWAC	●	PBCR		●		
Coon Creek	410400060030	PPWS	WWAC	●	PBCR		●		

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Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Coalgate Reservoir and Watershed	410400060030, 410400060040, 410400060050	PPWS	WWAC	●	PBCR		●	SWS	
Caney Boggy Creek	410400060120	PPWS	WWAC	●	PBCR		●		
Sandy Creek	410400030280	PPWS	WWAC	●	PBCR		●		
Little Sandy Creek	410400060270		HLAC	●	SBCR		●		
Town Branch	410400060310_00		HLAC	●	SBCR		●		
Whitegrass Creek	410400010210	PPWS	WWAC	●	PBCR		●		
Blue River downstream from the State Hwy. 48A Bridge	410600010010, 410600010290, 410600020010	PPWS	WWAC	●	PBCR		●		
Tributary of Bokchito Creek at Sec. 22, T6S, R11E, IM	410600010095		HLAC	●	SBCR		●		
Caddo Creek	410600010140		WWAC	●	PBCR		●		
Mineral Bayou	410600010300	EWS	WWAC	●	PBCR		●		
Little Blue River	410600010340	PPWS	WWAC	●	PBCR		●		
Sandy Creek	410600010250	PPWS	WWAC	●	PBCR		●		
Blue River upstream from State Hwy. 48A Bridge to State Hwy. 7 Bridge	410600020010_10	PPWS	Trout	●	PBCR		●	HQW	
Blue River upstream from State Hwy. 7 Bridge	410700020010_20	PPWS	CWAC	●	PBCR		●	HQW	
Red River upstream from the Blue River to Lake Texoma Dam	410700000010	PPWS	WWAC	●	PBCR		●		
Island Bayou	410700000040	EWS	WWAC	●	SBCR		●		
Sandy Creek	410700000250	PPWS	WWAC	●	PBCR		●		
Tributary of Sandy Creek at Sec. 20, T8S, R8E, IM	410700000250_00		HLAC	●	SBCR		●		

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APPENDIX A.5
Designated Beneficial Uses of Surface Waters
Water Quality Management Basin 5, Canadian River

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
North Canadian River from Canadian River to S.H. 99 bridge	520500010110_10, 520510000010, 520510000110_00	PPWS	WWAC	●	PBCR		●		
Deep Fork of Canadian River downstream from Arcadia Lake	520700010120, 520700020010, 520700030010, 520700040010, 520700050010, 520710010010, 520710020010	PPWS	WWAC	●	PBCR		●		
Wolf Creek downstream from Lake Henryetta	520700010130, 520700010170_00		WWAC	●	PBCR		●		
Coal Creek	520700010140	EWS	WWAC	●	SBCR		●		
Henryetta Lake and Watershed	520700010170_10, 520700010180	PPWS	WWAC	●	PBCR		●	SWS	
Moore Creek	520700010190		WWAC	●	PBCR		●		
Burgess Creek at Montezuma Creek NE 1/4, Sec. 8, T12N, R13E, IM	520700010230	EWS	WWAC	●	PBCR		●		
Cussetah (Cosseetta) Creek	520700010250		WWAC	●	PBCR		●		
Tributary of Cussetah at NE 1/4, Sec. 12, T13N, R13E, IM	520700010310_00		HLAC	●	SBCR		●		
Salt Creek downstream from Okmulgee Lake	520700020020	PPWS	WWAC	●	PBCR		●		
Dripping Springs Lake	520700020060	PPWS	WWAC	●	PBCR		●		
Okmulgee Lake and Watershed	520700020040, 520700020050, 520700020060	PPWS	WWAC	●	PBCR		●	SWS	
Adams Creek including Beggs Lake	520700020080, 520700020110	PPWS	WWAC		PBCR		●		
Flat Rock Creek	520700020090	PPWS	WWAC	●	PBCR		●		
New Beggs Lake	520700020130	PPWS	WWAC	●	PBCR		●		

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Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Tributary of Adams Creek at NW 1/4, Sec. 5, T14N, R12E, IM (West Beggs Creek)	520700020100	EWS	WWAC	●	PBCR		●		
Little Deep Fork Creek downstream from Sand Creek	520700060010, 520700060100		WWAC	●	PBCR		●		
Brown's Creek	520700060050	PPWS	WWAC		PBCR		●		
Little Deep Fork Creek upstream from Sand Creek to State Hwy. 48 Bridge	520700060130_00	PPWS	HLAC	●	SBCR		●		
Little Deep Fork Creek upstream from State Hwy. 48 Bridge	520700060130_10	PPWS	WWAC	●	PBCR		●		
Catfish Creek	520700060140	PPWS	WWAC	●	PBCR		●		
Tributary of Little Deep Fork Creek at SE 1/4, Sec. 6, T15N, R8E, IM	520700060220_00		HLAC	●	SBCR		●		
Nuyaka Creek	520700020200	PPWS	WWAC	●	PBCR		●		
Buckeye Creek	520700020270, 520700020280	PPWS	WWAC	●	PBCR		●		
Okemah Lake and Watershed	520700020280, 520700020290, 520700020300	PPWS	WWAC	●	PBCR		●	SWS	
Salt Creek	520700030100	PPWS	WWAC	●	PBCR		●		
Camp Creek downstream from Stroud Lake	520700030220	PPWS	WWAC	●	PBCR		●		
Stroud Lake and Watershed	520700030220, 520700030230, 520700030240	PPWS	WWAC	●	PBCR		●	SWS	
Gray Horse Creek	520700040030		HLAC	●	SBCR		●		
Dry Creek	520700040020	PPWS	WWAC	●	PBCR		●		
Chuckaho Creek	520700040060	PPWS	WWAC	●	PBCR		●		
West Beaver Creek	520700040170		WWAC	●	SBCR		●		
Deer Creek	520700040190	PPWS	WWAC	●	PBCR		●		
Robinson Creek	520700040180	PPWS	WWAC	●	PBCR		●		
Prague Lake	520720040025		WWAC	●	PBCR		●		
Quapaw Creek	520700040260	PPWS	WWAC	●	PBCR		●		
Sparks City Lake	520700040280	PPWS	WWAC	●	PBCR		●		

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Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Meeker Lake and Watershed	520700040350, 520700040360, 520700040370	PPWS	WWAC	●	PBCR		●	SWS	
Bellcow Creek including Bellcow Lake	520700050020, 520700050030, 520720050025	PPWS	WWAC	●	PBCR		●		
Chandler Lake and Watershed	520700050050, 520700050060, 520700050250	PPWS	WWAC	●	PBCR		●	SWS	
Tributary of Bellcow Creek at Sec. 6, T15N, R3E, IM	520700050260_00		HLAC	●	SBCR		●		
Kickapoo Creek	520700050090	PPWS	WWAC	●	PBCR		●		
East Captain Creek	520700050150	PPWS	WWAC	●	PBCR		●		
Bear Creek	520700050170	PPWS	WWAC	●	PBCR		●		
Smith Creek	520710010020	PPWS	HLAC	●	PBCR		●		
Coon Creek	520710010030		WWAC	●	PBCR		●		
Coffee Creek downstream from the boundaries of Sec. 22 & 23, T14N, R02W, IM	520710010090_00	PPWS	HLAC	●	PBCR		●		
Coffee Creek upstream from the boundaries of Sec. 22 & 23, T14N, R02W, IM	520710010090_10, 520710010100	PPWS	WWAC	●	PBCR		●		
Arcadia Lake and Watershed	520710020010, 520710020020, 520710020030, 520710020040, 520710020050, 520710020060, 520710020070, 520710020080, 520710020090, 520710020100, 520710020110, 520710020120, 520710020130, 520710020140, 520710020150, 520710020160	PPWS	WWAC	●	PBCR		●	SWS	
Bad Creek	520500010170	PPWS	WWAC	●	PBCR		●		
Dustin Lake	520500010152	PPWS	WWAC	●	PBCR		●		
Alabama Creek	520500010200	PPWS	WWAC	●	PBCR		●		
Weleetka Lake and Watershed	520500010210, 520500010220	PPWS	WWAC	●	PBCR		●	SWS	

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Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Wewoka Creek downstream from the boundaries of Sec. 27 & 28, T9N, R6E, IM	520500020010, 520500020240_00	EWS	WWAC	●	PBCR		●		
Sportsman Lake	520500020220	PPWS	WWAC	●	PBCR		●		
Fish Creek	520500020030	PPWS	WWAC	●	PBCR		●		
Tributary of Wewoka Creek at SE NE SW Sec. 27, T9N, R10E, IM (Wetumka Creek)	520500020035		HLAC	●	SBCR		●		
Graves Creek	520500020060	PPWS	WWAC	●	PBCR		●		
Little Wewoka Creek	520500020090	PPWS	WWAC	●	PBCR		●		
Tributary of Wewoka Creek at Sec. 20, T8N, R8E, IM (Oakwood Cemetery Creek)	520500020280		HLAC	●	SBCR		●		
Wewoka Lake and Watershed	520500020170, 520500020180, 520500020190	PPWS	WWAC	●	PBCR		●	SWS	
Wewoka Creek upstream from the boundaries of Sec. 27 & 28, T9N, R6E, IM	520500020240_10	PPWS	HLAC	●	SBCR		●		
Tributary of Wewoka Creek at NW 1/4, Sec. 16, T9N, R5E, IM	520500020290_00		HLAC	●	SBCR		●		
Tributary of North Canadian River at Sec. 22, T10N, R11E, IM	520500		HLAC	●	SBCR		●		
Lake Wetumka	520500010270	PPWS	WWAC	●	PBCR		●		
Flat Rock Creek	520500010280_00	PPWS	WWAC	●	PBCR		●		
Sand Creek	520510000050		HLAC	●	SBCR		●		
Tributary of Sand Creek at SW 1/4, Sec. 34, T11N, R8E, IM	520510000053_00		HLAC	●	SBCR		●		
Boley Creek	520510000055		HLAC	●	SBCR		●		
Turkey Creek	520510000100	PPWS	WWAC	●	PBCR		●		
Tecumseh Lake and Watershed	520510000200, 520510000210, 520510000220	PPWS	WWAC	●	PBCR		●	SWS	
Shan Creek	520510000120		HLAC	●	SBCR		●		
Tributary of Squirrel Creek at SE 1/4 of NW 1/4 of SW 1/4 of Sec. 6, T9N, R4E, IM	520510000390_00		WWAC	●	PBCR		●		

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Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Shawnee Twin Lakes and Watershed	520510000250, 520510000280, 520510000290, 520510000300	PPWS	WWAC	●	PBCR		●	SWS	
North Deer Creek including Wes Watkins Reservoir (N. Deer Creek Lake)	520510000310, 520510000255	PPWS	WWAC	●	PBCR		●		
Tributary of the North Canadian River at NE 1/4, Sec. 36, T12N, R1E, IM	520510000320_00		HLAC	●	SCBR		●		
Horseshoe Lake	520510000330		WWAC		PBCR		●		
North Canadian River from State Hwy. 99 Bridge to Portland Street Bridge, Oklahoma City	520510000110, 520520000010_40	EWS	WWAC	●	PBCR		●		
Choctaw Creek	520520000030	EWS	HLAC	●	SBCR		●		
Tributary of Choctaw Creek at NW 1/4, Sec. 27, T12N, R1W, IM	520520000035_00		HLAC	●	PBCR		●		
Crutcho Creek from North Canadian River to S.E. 15th Street, Del City	520520000070_00		WWAC	●	PBCR		●		
Soldier Creek	520520000080		WWAC	●	PBCR		●		
Tributary of Soldier Creek at NW 1/4, Sec. 13, T11N, R02W, IM	520520000290		WWAC	●	SBCR		●		
Crutcho Creek upstream from S.E. 15th Street, Del City	520520000070_10, 520520000090		HLAC	●	SBCR		●		
Tributary of Crutcho Creek at SW 1/4, Sec. 16, T11N, R2W, IM	520520000190_00		WWAC	●	PBCR		●		
Cherry Creek	520520000110		HLAC	●	SBCR		●		
Crooked Oak Creek	520520000150	PPWS	WWAC	●	PBCR		●		
North Canadian River from Portland Street Bridge to Canton Lake Dam	520520000010_50, 520520000250, 520530000010	PPWS	WWAC	●	PBCR		●		
Mustang Creek	520520000240		WWAC	●	PBCR		●		
Lake Overholser	520520000260	PPWS	WWAC	●	PBCR		●		NLW
Shell Creek	520530000030	PPWS	WWAC	●	PBCR		●		
Purcell Creek	520530000040	PPWS	WWAC	●	PBCR		●		

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Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Six Mile Creek	520530000050	PPWS	WWAC	●	PBCR		●		
Lake El Reno	520530000080		WWAC	●	PBCR		●		
Unnamed tributary of North Canadian River at Sec. 6, T13N, R10W, IM and NW SE NE 1/4 of Sec. 31, T14N, R10W, IM	520530000200_00		HLAC	●	SBCR		●		
Minnehaha Creek	520530000190	PPWS	WWAC	●	SBCR		●		
Canadian River from its confluence with Little River to Buckhead Creek	520600010010, 520600020010, 520610010010	PPWS	WWAC	●	PBCR		●		
Little River	520800010010, 520800010090, 520800010130, 520800020010	PPWS	WWAC	●	PBCR		●		
Lake Holdenville and Watershed	520800010030, 520800010040	PPWS	WWAC	●	PBCR		●	SWS	
Bird Creek	520800010050		HLAC	●	SBCR		●		
Tributary of Bird Creek at NW 1/4, Sec. 6, T6N, R9E, IM	520800010150_00		WWAC	●	SBCR		●		
Salt Creek	520800030010	PPWS	WWAC	●	PBCR		●		
Tributary to Salt Creek at NW SW Sec. 33, T8N R5E, IM (Maud Creek)	520800030040_00		WWAC	●	PBCR		●		
Unnamed tributary of Little River at Sec. 33, T8N, R6E, IM	520800010200_00		HLAC	●	SBCR		●		
Lake Thunderbird and Watershed	520810000010, 520810000020, 520810000030, 520810000040, 520810000050, 520810000060, 520810000070, 520810000080, 520810000090, 520810000100, 520810000110, 520810000120, 520810000130, 520810000140, 520810000150, 520810000170, 520810000175, 520810000180	PPWS	WWAC	●	PBCR		●	SWS	NLW
Stanley Draper Lake	520810000130	PPWS	WWAC	●	PBCR		●		

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Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Tributary of Canadian River at SE 1/4, Sec.18, T5N, R7E, IM	520600010120_00		HLAC	●	SBCR		●		
Jumper Creek including Lake Konawa	520600010080, 520600010090, 520600010100	EWS	WWAC	●	PBCR		●		
Canadian Sandy Creek	520600030010	PPWS	WWAC	●	PBCR		●		
Little Sandy Creek	520600030020	PPWS	WWAC	●	PBCR		●		
Spring Brook Creek	520600030030	PPWS	WWAC	●	PBCR		●		
Tributary of Cat Creek at Sec. 7, T6N, R4E, IM	520600020165_00		HLAC	●	SBCR		●		
Pond Creek	520600020190	PPWS	WWAC	●	PBCR		●		
Canadian River upstream from its confluence with Buckhead Creek to the US Hwy. 81 bridge	520610010010, 520610020010, 520610020150_00		WWAC	●	PBCR		●		
Buckhead Creek	520610010020	PPWS	WWAC	●	PBCR		●		
Tributary of Canadian River at NE 1/4, Sec. 35, T6N, R1W, IM	520610		HLAC	●	SBCR		●		
Walnut Creek	520610030010		WWAC	●	PBCR		●		
Purcell Lake	520610030040		WWAC	●	PBCR		●		
Bridge Creek at Sec. 22, T9N, R5W, IM	520610030100		WWAC	●	PBCR		●		
Pond Creek (return flow, City of Newcastle)	520610010210	PPWS	WWAC	●	PBCR		●		
Tributary of Pond Creek at NE 1/4, Sec. 14, T9N, R4W, IM (Tim's Creek)	520610010215		HLAC	●	SBCR		●		
Cow Creek	520610010230	PPWS	WWAC	●	PBCR		●		
Dry Creek	520610020070	PPWS	WWAC	●	PBCR		●		
Store Creek	520610020080	PPWS	WWAC	●	PBCR		●		
West Creek	520610020090		HLAC	●	SBCR		●		
Buggy Creek	520610020120	EWS	WWAC	●	PBCR		●		
Tributary of Canadian River at SW 1/4, Sec. 3, T10N, R7W, IM	520610020155_00		HLAC	●	SBCR		●		

SUBJ

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Canadian River upstream from US Hwy. 81 bridge	520610020150_10, 520620010010, 520620020010, 520620030010, 520620040010, 520620050010	EWS	WWAC	●	PBCR		●		
Deer Creek	520620060010	PPWS	WWAC	●	PBCR		●		
Little Deep Creek	520620060040		HLAC	●	PBCR		●		
Little Deer Creek	520620060070	PPWS	WWAC	●	PBCR		●		
Horse Creek	520620060080	PPWS	WWAC	●	PBCR		●		
American Horse Lake	520620010100		WWAC	●	PBCR		●		
Tributary of Canadian River at SE 1/4,Sec. 4, T15N, R14W, IM (West Fay Creek)	520620010160		HLAC	●	SBCR		●		
Squirrel Creek	520620020080	PPWS	WWAC	●	PBCR		●		
Lone Creek	520620030020	PPWS	WWAC	●	PBCR		●		
Trail Creek	520620020090	EWS	HLAC	●	SBCR		●		
Gyp Creek	520620030100	PPWS	WWAC	●	PBCR		●		
Red Creek	520620030110	PPWS	WWAC	●	PBCR		●		
Turkey Creek	520620030130	PPWS	WWAC	●	PBCR		●		
South Turkey Creek	520620030150	PPWS	WWAC	●	PBCR		●		
Hackberry Creek	520620040050	PPWS	WWAC	●	PBCR		●		
Trib to Mosquito Creek downstream from Sec. 31, T19N, R24W, IM	520620050110	PPWS	WWAC	●	PBCR		●		
Trib to Mosquito Creek upstream from Sec. 6, T18N, R24W, IM	520620050120	EWS	HLAC	●	SBCR		●		
Red Bluff Creek	520620050140	PPWS	WWAC	●	PBCR		●		
Commission Creek	520620050160	PPWS	WWAC	●	PBCR				
Lake Lloyd Vincent	520620050200		WWAC	●	PBCR		●		

SUP

APPENDIX A.6
Designated Beneficial Uses of Surface Waters
Water Quality Management Basin 6, Upper Arkansas River

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Arkansas River upstream from and including Keystone Reservoir to Kaw Dam	620900010020, 620900010090, 621200010020, 621200010040, 621200010050, 621200020010	PPWS	WWAC	●	PBCR		●		
Cimarron River upstream from Keystone Reservoir to the Kansas State Line	620900010170, 620900020010, 620900030010, 620910010010, 620910020010, 620920010010, 620920020010, 620920030010	EWS	WWAC	●	PBCR		●		
Buckeye Creek	620900010220		WWAC		PBCR		●		
Tiger Creek	620900010250		WWAC	●	PBCR		●		
Euchee Creek downstream from Sec. 5, T17N, R6E, IM	620900010290_00	EWS	WWAC	●	PBCR		●		
Euchee Creek upstream from Sec. 5, T17N, R6E, IM	620900010290_10	EWS	WWAC	●	SBCR		●		
Cottonwood Creek	620900010310	EWS	WWAC	●	PBCR		●		
Wildhorse Creek	620900010320	EWS	WWAC	●	PBCR		●		
Skull Creek	620900010360	EWS	WWAC	●	PBCR		●		
Salt Creek	620900020020	PPWS	WWAC	●	PBCR		●		
Council Creek	620900020050	PPWS	WWAC	●	PBCR		●		
Big Creek downstream from Cushing Lake	620900020100	PPWS	WWAC	●	PBCR		●		
Cushing Lake and Watershed	620900020110, 620900020120, 620900020130	PPWS	WWAC	●	PBCR		●	SWS	
Stillwater Creek downstream from Little Stillwater Creek	620900040040	PPWS	WWAC	●	PBCR		●		
Little Stillwater Creek	620900040050	PPWS	WWAC	●	PBCR		●		
Stillwater Creek from Little Stillwater Creek to Sec. 32, T19N, R3E, IM	620900040070_00	EWS	HLAC	●	PBCR		●		

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Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Stillwater Creek upstream from Sec. 33, T19N, R3E, IM to the Carl Blackwell Lake Dam	620900040070_10, 620900040270_00	EWS	HLAC	●	SBCR		●		
Brush Creek	620900040090		HLAC	●	SBCR		●		
Boomer Creek below Boomer Lake	620900040140, 620900040180	PPWS	WWAC	●	PBCR		●		
Boomer Lake and Watershed	620900040180, 620900040190	PPWS	WWAC	●	PBCR		●	SWS	
Lake McMurtry and Watershed	620900040220, 620900040230, 620900040240	PPWS	WWAC	●	PBCR		●	SWS	
Carl Blackwell Lake and Watershed	620900040270_10, 620900040280, 620900040290, 620900040300	PPWS	WWAC	●	PBCR		●	SWS	
Sand Creek	620900030040		HLAC	●	SBCR		●		
Dugout Creek	620900030080	PPWS	WWAC	●	PBCR		●		
Fitzgerald Creek	620900030150	PPWS	WWAC	●	PBCR		●		
Langston Lake and Watershed	620900030170, 620900030180	PPWS	WWAC	●	PBCR		●	SWS	
Beaver Creek	620900030230	PPWS	WWAC	●	PBCR		●		
Skeleton Creek downstream from Bitter Creek	620910030010, 620910030170_00	PPWS	WWAC	●	PBCR		●		
Wolf Creek	620910030020	PPWS	WWAC	●	PBCR		●		
Otter Creek	620910030040	PPWS	WWAC	●	PBCR		●		
Horse Creek	620910030110	PPWS	WWAC	●	PBCR		●		
Bitter Creek	620910030180	PPWS	WWAC	●	PBCR		●		
Skeleton Creek from Bitter Creek to Boggy Creek	620910030170_10,	EWS	HLAC	●	SBCR		●		
Hackberry Creek	620910030220	EWS	WWAC	●	SBCR		●		
Tributary of Skeleton Creek at Sec. 27, T22N, R5W, IM (Fairmont Creek)	620910030230_00		HLAC	●	SBCR		●		
Skeleton Creek upstream from Boggy Creek	620900030240_00	PPWS	WWAC	●	PBCR		●		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Tributary of Boggy Creek at NW 1/4, Sec. 14, T22N, R6W, IM	621010		HLAC	●	SBCR		●		
Cottonwood Creek	620910040010	PPWS	WWAC	●	PBCR		●		
Guthrie Lake and Watershed	620910040050, 620910040060	PPWS	WWAC	●	PBCR		●	SWS	
Liberty Lake and Watershed	620910040070, 620910040080	PPWS	WWAC	●	PBCR		●	SWS	
Chisholm Creek	620910040100	PPWS	WWAC	●	PBCR		●		
Deer Creek	620910040120	PPWS	WWAC	●	PBCR		●		
Bluff Creek	620910040140	PPWS	WWAC	●	PBCR		●		
Hefner Lake	620910040200_00	PPWS	WWAC	●	PBCR		●		
Kingfisher Creek	620910050010		WWAC	●	PBCR		●		
Uncle John Creek	620910050030		WWAC	●	PBCR		●		
Winter Camp Creek	620910050080	PPWS	WWAC	●	PBCR		●		
Tributary of Winter Camp Creek at NE 1/4, Sec. 19, T15N, R8W, IM	620910050085_00	EWS	HLAC	●	SBCR		●		
Otter Creek	620910050130	PPWS	WWAC	●	PBCR		●		
Turkey Creek	620910060010	PPWS	WWAC	●	PBCR		●		
Unnamed tributary of Turkey Creek at Sec. 23, T19N, R7W, IM (Narragansett Creek)	620910060025_00		HLAC	●	SBCR		●		
Dry Salt Creek	620910060140		HLAC	●	SBCR		●		
Tributary of Dry Salt Creek at NW 1/4, Sec. 15, T21N, R8W, IM	620910060145_00		HLAC	●	SBCR		●		
Cooper Creek	620910020040	PPWS	WWAC	●	PBCR		●		
Salt Creek downstream from the Blaine-Kingfisher County Line	620910020100_00	EWS	WWAC	●	SBCR		●		
Salt Creek upstream from the Blaine-Kingfisher County Line	620910020100_10	EWS	HLAC	●	SBCR		●		
Spring Creek	620910020110	PPWS	WWAC	●	PBCR		●		
Tributary of Spring Creek at Sec. 19, T19N, R10W, IM	620910020115_00		HLAC	●	SBCR		●		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Tributary of Salt Creek at Sec. 11, T17N, R11W, IM (Hitchcock Creek)	620910020120_00		HLAC	●	SBCR		●		
Hoyle Creek	620910020210	PPWS	WWAC	●	PBCR		●		
Deep Creek	620910020250	PPWS	WWAC	●	PBCR		●		
Elm Creek	620910020270	PPWS	WWAC	●	PBCR		●		
Indian Creek	620910020310	PPWS	WWAC	●	PBCR		●		
Sand Creek	620920010020	PPWS	WWAC	●	PBCR		●		
Gypsum Creek	620920010030	PPWS	WWAC	●	PBCR		●		
Cottonwood Creek	620920010080	PPWS	WWAC	●	PBCR		●		
Eagle Chief Creek	620920040010	PPWS	WWAC	●	PBCR		●		
Tributary of Eagle Chief Creek at Sec. 36, T24N, R12W, IM (Big Timber Lake Creek)	620920040030		HLAC	●	SBCR		●		
Lake Creek	620920040100		WWAC	●	PBCR		●		
Cheyenne Creek	620920010100	PPWS	WWAC	●	PBCR		●		
Barney Creek	620920010110	PPWS	WWAC	●	PBCR		●		
Griever Creek	620920010130	PPWS	WWAC	●	PBCR		●		
East Griever Creek	620920010140	PPWS	WWAC	●	PBCR		●		
Main Creek	620920010180	PPWS	WWAC	●	PBCR		●		
Ewers Creek	620920010190	PPWS	WWAC	●	PBCR		●		
Dog Creek	620920020020	EWS	WWAC	●	PBCR		●		
Sand Creek	620920020030	PPWS	WWAC	●	PBCR		●		
Chimney Creek	620920020040	PPWS	WWAC	●	PBCR		●		
White Horse Creek	620920020050	PPWS	WWAC	●	PBCR		●		
Doe Creek	620920020060	PPWS	WWAC	●	PBCR		●		
Long Creek	620920020080	PPWS	WWAC	●	PBCR		●		
Red Horse Creek	620920020110	PPWS	WWAC	●	PBCR		●		
Anderson Creek	620920020120	PPWS	WWAC	●	PBCR		●		
Traders Creek	620920020170	PPWS	WWAC	●	PBCR		●		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Moccasin Creek	620920020180	PPWS	WWAC	●	PBCR		●		
Sand Creek	620920020200	PPWS	WWAC	●	PBCR		●		
Buffalo Creek	620920050010	PPWS	WWAC	●	PBCR		●		
Sleeping Bear Creek	620920050030	PPWS	WWAC	●	PBCR		●		
Sand Creek	620920050050	PPWS	WWAC	●	PBCR		●		
Day Creek	620920030030	PPWS	WWAC	●	PBCR		●		
Keno Creek	620920030040	PPWS	WWAC	●	PBCR		●		
Cimarron River from Kansas State Line near Englewood, Kansas to the Kansas State Line near Forgan, Oklahoma	620930000010	PPWS	WWAC	●	PBCR		●		
Snake Creek	620930000020	PPWS	WWAC	●	PBCR		●		
Redoubt Creek	620930000030	PPWS	WWAC	●	PBCR		●		
Horse Creek	620930000060	EWS	WWAC	●	SBCR		●		
Crooked Creek	620930000100	PPWS	WWAC	●	PBCR		●		
Cottonwood Creek	620930000110	PPWS	WWAC	●	PBCR		●		
Bug Creek	621200010320	PPWS	WWAC	●	PBCR		●		
Ranch Creek including Cleveland Lake	621200010260, 621200010270	PPWS	WWAC	●	PBCR		●		
Black Bear Creek	621200030010, 621200030260	PPWS	WWAC	●	PBCR		●		
Camp Creek including Lone Chimney Lake	621200030040, 621200030060	PPWS	WWAC	●	PBCR		●		
Pawnee Lake and Watershed	621200030080, 621200030090, 621200030100, 621200030110, 621200030120	PPWS	WWAC	●	PBCR		●	SWS	
Oak Creek	621200030190	PPWS	WWAC	●	PBCR		●		
Tributary of Oak Creek at SE 1/4, Sec. 27, T21N, R3E, IM	621200030195_00		WWAC	●	PBCR		●		
Mule Creek	621200030230	PPWS	WWAC	●	PBCR		●		
Cow Creek downstream from Lake Perry	621200030270,	PPWS	WWAC	●	PBCR		●		
Lake Perry and Watershed	621200030340, 621200030350	PPWS	WWAC	●	PBCR		●	SWS	

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Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
West Warren Creek	621200030390	PPWS	WWAC	●	PBCR		●		
Salt Creek	621200040010	PPWS	WWAC	●	PBCR		●		
Fairfax City Lake and Watershed	621200040030, 621200040040	PPWS	WWAC	●	PBCR		●	SWS	
Little Chief Creek	621200040070	PPWS	WWAC	●	PBCR		●		
Phillips Lake (Shidler) and Watershed	621200040170, 621200040180	PPWS	WWAC	●	PBCR		●	SWS	
Tributary of Salt Creek at SW 1/4, Sec. 34, T27N, R6E, IM	621200040270_00		HLAC	●	SBCR		●		
Elm Creek	621200040210	PPWS	WWAC	●	PBCR		●		
Doga Creek	621200020020	PPWS	WWAC	●	PBCR		●		
Greasy Creek including Sooner Lake	621200020110, 621200020130		WWAC	●	PBCR		●		
Red Rock Creek	621200050010		WWAC	●	PBCR		●		
Tributary of Red Rock Creek at NW 1/4, Sec. 7, T23N, R2E, IM (Marland Creek)	621200050070_00		HLAC	●	SBCR		●		
Salt Fork of the Arkansas River	621000010010, 621000020010, 621010010010, 621010010160, 621010010220	PPWS	WWAC	●	PBCR		●		
Great Salt Plains Reservoir	621010010010, 621010010050, 621010010060, 621010010100, 621010010020_00		WWAC		PBCR		●		NLW
Bois d'Arc Creek	621000030010	PPWS	WWAC	●	PBCR		●		
Spring Creek downstream from Sec. 3, T27N, R2E, IM	621000030070, 621000030090_00	EWS	WWAC	●	PBCR		●		
Spring Creek upstream from Sec. 10,T27N, R2E, IM to Sec. 27, T28N, R2E, IM	621000030110_00	EWS	HLAC	●	SBCR		●		
Spring Creek upstream from Sec. 34, T28N, R2E, IM	621000030110_10	EWS	WWAC	●	PBCR		●		
Chikaskia River	621100000010, 621100000190	PPWS	WWAC	●	PBCR		●		
Duck Creek	621100000030	PPWS	WWAC	●	PBCR		●		
Stink Creek	621100000050	PPWS	WWAC	●	PBCR		●		

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Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Bitter Creek	621100000100	PPWS	WWAC	●	PBCR		●		
Doe Creek	621100	PPWS	WWAC	●	PBCR		●		
Bluff Creek	621100000230	PPWS	WWAC	●	PBCR		●		
Deer Creek	621000040010	PPWS	WWAC	●	PBCR		●		
Pond Creek	621000050010	PPWS	WWAC	●	PBCR		●		
Polecat Creek	621000050030	PPWS	WWAC	●	PBCR		●		
Bullwacker Creek	621000050080	EWS	HLAC	●	SBCR		●		
Osage Creek	621000050100	PPWS	WWAC	●	PBCR		●		
Crooked Creek	621000060010	PPWS	WWAC	●	PBCR		●		
Sand Creek	621000060030	PPWS	WWAC	●	PBCR		●		
Wagon Creek	621000020200	PPWS	WWAC	●	PBCR		●		
Tributary of Wagon Creek at Sec. 10, T25N, R9W, IM	621000020210_00		HLAC	●	SBCR		●		
Clay Creek	621010010090	EWS	WWAC	●	PBCR		●		
East Clay Creek	621010010110	PPWS	WWAC	●	PBCR		●		
West Clay Creek	621010010130	PPWS	WWAC	●	PBCR		●		
Sandy Creek	621010020010	PPWS	WWAC	●	PBCR		●		
Little Sandy Creek	621010020030	PPWS	WWAC	●	PBCR		●		
Medicine Lodge River	621010030010	PPWS	WWAC	●	PBCR		●		
Driftwood Creek	621010030030	PPWS	WWAC	●	PBCR		●		
Turkey Creek	621010010230	PPWS	WWAC	●	PBCR		●		
Greenleaf Creek	621010010250	PPWS	WWAC	●	PBCR		●		
Yellowstone Creek	621010010270	PPWS	WWAC	●	PBCR		●		
Hoover Ditch	621200		HLAC	●	SBCR		●		
Lake Ponca and Watershed	621200020190, 621200020200, 621200020210, 621200020220	PPWS	WWAC	●	PBCR		●	SWS	
Arkansas River upstream from Kaw Dam to Kansas State Line including Kaw Lake	62121000020, 621210000030, 62121000040	PPWS	WWAC	●	PBCR		●		
Beaver Creek	621210000050	PPWS	WWAC	●	PBCR		●		

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APPENDIX A.7
Designated Beneficial Uses of Surface Waters
Water Quality Management Basin 7, Panhandle Region

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
North Canadian River upstream from and including Canton Lake (Crystal Beach Lake) to Hwy 50	720500010010, 720500010020, 720500010140_00	PPWS	WWAC	●	PBCR		●		
Cheyenne Creek	720500010040	PPWS	WWAC	●	PBCR		●		
Deep Creek	720500010060	PPWS	WWAC	●	PBCR		●		
Bent Creek	720500010070	PPWS	WWAC	●	PBCR		●		
Camp Creek	720500010080	PPWS	WWAC	●	PBCR		●		
Kizer Creek	720500010090	PPWS	WWAC	●	PBCR		●		
Cottonwood Creek	720500010110	PPWS	WWAC	●	PBCR		●		
Persimmon Creek	720500010150	PPWS	WWAC	●	PBCR		●		
North Persimmon Creek	720500010170	PPWS	WWAC	●	PBCR		●		
South Persimmon Creek	720500010180	PPWS	WWAC	●	PBCR		●		
Indian Creek	720500010200	PPWS	WWAC	●	PBCR		●		
North Canadian (Beaver) River upstream from Hwy. 50 to Optima Lake	720500010140_10, 720500010140_20, 720500020010, 720500020140, 720500020290, 720500020450		WWAC	●	PBCR		●		
Wolf Creek	720500020030, 720500030010	PPWS	WWAC	●	PBCR		●	SWS	
Fort Supply Reservoir	720500030020	PPWS	WWAC	●	PBCR		●	SWS	NLW
Sixteenmile Creek	720500030050	PPWS	WWAC	●	PBCR		●	SWS	
Little Wolf Creek	720500030070	PPWS	WWAC	●	PBCR		●	SWS	
Buzzard Creek	720500030080	PPWS	WWAC	●	PBCR		●	SWS	
Twentyfive mile Creek	720500030090	PPWS	WWAC	●	PBCR		●	SWS	
Willow Creek	720500030100	PPWS	WWAC	●	PBCR		●	SWS	
Rock Creek	720500030110	PPWS	WWAC	●	PBCR		●	SWS	

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Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Otter Creek	720500020050	PPWS	WWAC	●	PBCR		●		
Clear Creek	720500020070	PPWS	WWAC	●	PBCR		●		
Kiowa Creek	720500020130	PPWS	WWAC	●	PBCR		●		
Camp Creek	720500020150	PPWS	WWAC	●	PBCR		●		
Sand Creek	720500020160	PPWS	WWAC	●	PBCR		●		
Coon Creek	720500020190	PPWS	WWAC	●	PBCR		●		
Mexico Creek	720500020210	PPWS	WWAC	●	PBCR		●		
Duck Pond Creek	720500020250	PPWS	WWAC	●	PBCR		●		
Camp Creek	720500020260	PPWS	WWAC	●	PBCR		●		
Clear Creek	720500020300	PPWS	WWAC	●	PBCR		●		
Cottonwood Creek	720500020310	PPWS	WWAC	●	PBCR		●		
South Fork of Clear Creek	720500020330	PPWS	WWAC	●	PBCR		●		
North Fork of Clear Creek	720500020340	PPWS	WWAC	●	PBCR		●		
Home Creek	720500020380	PPWS	WWAC	●	PBCR		●		
Sixmile Creek	720500020390	PPWS	WWAC	●	PBCR		●		
Willow Creek	720500020420	PPWS	WWAC	●	PBCR		●		
Sharp Creek	720500020430	PPWS	WWAC	●	PBCR		●		
Jackson Creek	720500020460	PPWS	WWAC	●	PBCR		●		
Bull Creek	720500020480	PPWS	WWAC	●	PBCR		●		
Fulton Creek	720500020510	PPWS	WWAC	●	PBCR		●		
Sand Creek	720500020520	PPWS	WWAC	●	PBCR		●		
Palo Duro Creek	720500020500	PPWS	WWAC	●	PBCR		●		
Chiquita Creek	720500020530	PPWS	WWAC	●	PBCR		●		
Hackberry Creek	720500020560	PPWS	WWAC	●	PBCR		●		
North Canadian (Beaver) River upstream from Optima Lake to Texas State Line	720510010020, 720510000100, 720510000190_00	PPWS	WWAC	●	PBCR		●		
Coldwater Creek	720510000040	PPWS	WWAC	●	PBCR		●		
Pony Creek	720510000090	PPWS	WWAC	●	PBCR		●		
Goff Creek	720510000110	PPWS	WWAC	●	PBCR		●		

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Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Dry Sand Draw	720510000150								(4)
Tepee Creek	720510000200	PPWS	WWAC	●	PBCR		●		
Sand Creek	720510000220	PPWS	WWAC	●	PBCR		●		
North Canadian (Beaver) River upstream from Texas State Line to New Mexico State Line	720510000190_10, 720510000275	PPWS	WWAC	●	PBCR		●	HQW	
Cienequilla Creek from mouth to New Mexico State Line	720510000240	PPWS	WWAC	●	PBCR		●		
Cimarron River upstream from the Colorado State Line to the New Mexico State Line	720900000010, 720900000180	PPWS	WWAC	●	PBCR		●	HQW	
South Picket House Draw	720900000050	PPWS	WWAC	●	PBCR		●		
Cold Springs Creek	720900000100	PPWS	WWAC	●	PBCR		●		
Gallinas Cañon	720900000130	PPWS	WWAC	●	PBCR		●		
Water Canyon	720900000190	PPWS	WWAC	●	PBCR		●		
South Carrizo Creek	720900000200	PPWS	WWAC	●	PBCR		●		
Lake Carl Etling	720900000240	PPWS	WWAC	●	PBCR		●		NLW
Cottonwood Canyon Creek	720900000210	PPWS	WWAC	●	PBCR		●		
Tesesquite Creek	720900000260	PPWS	WWAC	●	PBCR		●		
North Carrizo Creek	720900000280	PPWS	WWAC	●	PBCR		●		
Carrizozo Creek	720900000320	PPWS	WWAC	●	PBCR		●		

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APPENDIX B. AREAS WITH WATERS OF RECREATIONAL AND/OR ECOLOGICAL SIGNIFICANCE

The following tables list National and State parks, National forests, wildlife areas, wildlife management areas, wildlife refuges (Table 1) and areas which contain federally listed threatened or endangered species pursuant to the Federal Endangered Species Act (Table 2).

TABLE 1 - National and State Parks, National Forests, Wildlife Areas, Wildlife Management Areas, and Wildlife Refuges

PROTECTED AREA / WATER	WQM Segment
Adair State Park	121700
Alabaster Caverns State Park	620920
Altus-Lugert Wildlife Management Area	311510
Arrowhead State Park	220600
Atoka Wildlife Management Area	410400
Beaver River Wildlife Management Area	720500
Beaver State Park	720500
Beavers Bend Resort State Park	410200
Black Kettle National Grasslands	310840
Black Kettle Wildlife Management Area	310840
Black Mesa State Park/Preserve	720900
Blue River Wildlife Management Area	410600
Boggy Depot State Park	410400
Boiling Springs State Park	720500
Boswell State Park	410400
Broken Bow Wildlife Management Area	410210
Brushy Lake State Park	220200
Candy Creek Wildlife Management Area	121300
Canton Wildlife Management Area	720500
Cherokee State Parks I, II, III	121600
Cherokee Landing State Park	121700
Cherokee Wildlife Management Area	120400
Chickasaw National Recreation Area	310800
Chouteau Wildlife Management Area	121500
Cimarron Bluff Wildlife Management Area	620920
Cimarron Hills Wildlife Management Area	620920
Clayton Lake State Park	410300
Cookson Hills Wildlife Management Area	220200
Cooper Wildlife Management Area	720500
Copan Wildlife Management Area	121400
Cross Timbers Wildlife Management Area	311100

PROTECTED AREA / WATER	WQM Segment
Crowder Lake State Park	310830
Deep Fork National Wildlife Refuge	520700
Deep Fork Wildlife Management Area	520700
Disney/Little Blue State Parks	121600
Dripping Springs State Park (Okmulgee)	520700
Drummond Flats Wildlife Management Area	620910
Ellis Co. Wildlife Management Area	520600
Eufaula Wildlife Management Area	520500 520700 220600
Five Civilized Tribes State Park	121600
Fobb Bottom Wildlife Management Area	311100
Fort Cobb State Park	310830
Fort Cobb Wildlife Management Area	310830
Fort Gibson Wildlife Management Area	121600
Fort Supply Wildlife Management Area	720500
Foss State Park	310830
Gary Sherrer Wildlife Management Area	410310
Grady County Wildlife Management Area	310810
Great Plains State Park	621010
Great Salt Plains State Park	621010
Greenleaf State Park	120400
(Camp) Gruber Training Center	120400
Hackberry Flat Wildlife Management Area	311310
Heavener Runestone State Park	220100
Heyburn Wildlife Management Area	120400
Hickory Creek Wildlife Management Area	311100
Honobia Creek Wildlife Management Area	410210
Hugo Lake State Park	410300
Hugo Wildlife Management Area	410300
Hulah Wildlife Management Area	121400
James M. Collins Wildlife Management Area	220600
John Dahl Wildlife Management Area	621200
Kaw Wildlife Management Area	621210
Keystone State Park	620900
Keystone Wildlife Management Area	620900 621200
Lake Eucha State Park	121600
Lake Eufaula State Park	520700
Lake Murray State Park	311100

PROTECTED AREA / WATER	WQM Segment
Lake Texoma State Park	310000
Lake Wister State Park	220100
Lexington Wildlife Management Area	520600
Little River National Wildlife Refuge	410200
Little River State Park	520810
Little Sahara State Park	620920
Love Valley Wildlife Management Area	311100
McCurtain Co. Wilderness Area	410210
McGee Creek State Park	410400
McGee Creek Wildlife Management Area	410400
Mountain Park Wildlife Management Area	311500
Natural Falls State Park	121700
North Grand Lake State Park	121600
Okmulgee State Park	520700
Okmulgee Wildlife Management Area	520700
Oologah Wildlife Management Area	121510
Optima National Wildlife Refuge	720510
Optima Wildlife Management Area	720510
Osage Hills State Park	121400
Osage-Western Wall Rock Creek Wildlife Management Area	121400
Ouachita National Forest	410210 410310 220100
Ouachita Wildlife Management Area	220100
Ozark Plateau Wildlife Management Area	220200
Ozark Plateau National Wildlife Refuge	220200
Packsaddle Wildlife Management Area	520620
Pine Creek Wildlife Management Area	410201
Pushmataha Wildlife Management Area	410300
Quartz Mountain State Resort Park	311510
Raymond Gary State Park	410300
Red Rock Canyon State Park	310830
Redbud Valley Conservancy Area	121300
Rita Blanca National Grasslands	720510
Robbers Cave State Park	220100
Robbers Cave Wildlife Management Area	220100
Robert S. Kerr State Wildlife Management Area	220200
Roman Nose State Park	620910
Sandy Sanders Wildlife Management Area	311800

PROTECTED AREA / WATER	WQM Segment
Sequoyah National Wildlife Refuge	220200
Sequoyah State Park/Western Hills Resort Park	121600
Sheppard Point Recreational Area	120400
Shorb Wildlife Management Area	720500
Skiatook Wildlife Management Area	121300
Snowdale State Park	121600
Spavinaw State Park	121600
Spavinaw Hills Wildlife Management Area	121600
Sparrow Hawk Wildlife Management Area	121700
Spiro Mound State Park	220200
Stinchcomb Wildlife Refuge	520520
Stringtown Wildlife Management Area	410400
Sutton Wilderness Area	520810
Talimena State Park	410310
Tenkiller State Park	121700
Tenkiller Wildlife Management Area	121700
Texoma/Washita Arm Wildlife Management Area	310800
Three Rivers Wildlife Management Area	410210
Tishomingo National Wildlife Refuge	310800
Tishomingo Wildlife Management Unit	310800
Turkey Creek Recreational Area	410210
Wahshashe State Park	121400
Walnut Creek State Park	621200
Washita National Wildlife Refuge	310840
Waurika Wildlife Management Area	311210
Webbers Falls Wildlife Management Area	120400
Wichita Mountains National Wildlife Refuge	311310 311500
Yourman Wildlife Management Area	220600

Table 2 - Areas which contain federally listed Threatened (T) or Endangered (E) Species pursuant to the Federal Endangered Species Act (ESA)

PROTECTED AREA / WATER	WQM SEGMENT	FEDERALLY-LISTED SPECIES under the ESA
Black Fork Creek in Pushmataha County from its junction with Little River, upstream to Oklahoma Highway 144 crossing.	410210	Leopard Darter (T)
Canadian River, main channel from the state line in Ellis and Roger Mills Counties, downstream to the Indian Nation Turnpike bridge west, of Eufaula Reservoir	220600 520600 520610 520620	Arkansas River Shiner (T), including critical habitat
Cimarron River, main channel west of I-35 crossing in Logan County, upstream to the state line and including the portion in northern Beaver and Harper counties	620910 620920	Arkansas River Shiner (T), including critical habitat
East Fork of Glover River, main channel in McCurtain County from its junction with the West Fork of Glover River, upstream to 4 air miles north-northeast of the community of Bethel in Section 5,T 2 S, R 24 ET2S, R24E, IM	410210	Leopard Darter (T), including critical habitat
Glover River, main channel in McCurtain County from Oklahoma Highway 3 crossing, upstream to the junction of the East Fork and West Fork of Glover River	410210	Leopard Darter (T), including critical habitat
Kiamichi River above Hugo Reservoir	410300	Scaleshell Mussel (E), Ouachita Rock Pocketbook mussel (E)
Little River, main channel in Pushmataha County from the mouth to of Cloudy Creek, upstream to the Pushmataha County Line	410210	Leopard Darter (T), including critical habitat; Ouachita Rock Pocketbook mussel (E); Rabbitsfoot mussel (T)
Little River below Pine Creek Reservoir	410200 410210	Ouachita Rock Pocketbook mussel (E); Rabbitsfoot mussel (T), including critical habitat; Winged Mapleleaf mussel (E)
Mountain Fork Creek (River), main channel in McCurtain County from mouth of Boktuklo Creek 6 air miles south-southwest of Smithville, upstream to the Oklahoma-Arkansas State line	410210	Leopard Darter (T), including critical habitat; Scaleshell Mussel (E)

PROTECTED AREA / WATER	WQM SEGMENT	FEDERALLY-LISTED SPECIES under the ESA
Neosho (Grand) River above Miami	121600	Neosho Madtom (T), Neosho Mucket mussel (E)
Salt Plains National Wildlife Refuge	621010	Whooping Crane (E), including critical habitat
West Fork of Glover River, main channel in-McCurtain County from its junction with the East Fork of Glover River, upstream to the community of Battiest	410210	Leopard Darter (T), including critical habitat
Verdigris River below Oologah Reservoir, downstream to Highway 266, Rogers County	121500	Rabbitsfoot mussel (T), including critical habitat
Illinois River, from Oklahoma-Arkansas State line, downstream to Barren Fork	121700	Neosho Mucket mussel (E), including critical habitat; Rabbitsfoot mussel (T)
Elk River, from Oklahoma-Arkansas State line, west to Buffalo Creek	121600	Neosho Mucket mussel (E), including critical habitat

APPENDIX C. [RESERVED]

APPENDIX D. CLASSIFICATIONS FOR GROUNDWATER IN OKLAHOMA

(a) **Vulnerability Levels of Hydrogeologic Basins.** Identification of vulnerability levels of hydrogeologic basins shall be as set forth in Table 1 of this Appendix. The boundaries of such hydrogeologic basins shall be as defined in the Oklahoma Water Resources Board publication number 99-1 entitled "Statewide Groundwater Vulnerability Map of Oklahoma".

(b) **Designations of "Nutrient-Vulnerable Groundwater".** Additional designations of certain hydrogeologic basins of groundwater as "nutrient-vulnerable groundwater" shall be as set forth in Table 2 of this Appendix. The boundaries of such "nutrient-vulnerable groundwater" hydrogeologic basins shall be as defined in the Oklahoma Water Resources Board publication number 99-1 entitled "Statewide Groundwater Vulnerability Map of Oklahoma".

Table 1. Identification of Vulnerability Levels of Hydrogeologic Basins

NAME OF HYDROGEOLOGIC BASIN		VULNERABILITY LEVEL
Alluvium and Terrace Deposits	of the North Fork of the Red River	Very High
	of the Salt Fork of the Arkansas River	Very High
	of the Red River	Very High
	of the Washita River	Very High
	Enid Isolated Terrace	Very High
	Canadian River	Very High
	of the Arkansas River	Very High
	of the Cimarron River	Very High
	of the North Canadian River	Very High
	Gerty Sand	High
	all other alluvium and terrace deposits	High-Very High
Bedrock	Boone	High
	Arbuckle-Simpson	High
	Blaine	High
	Elk City	High
	Cedar Hills	Moderate
	Antlers	Moderate
	Arbuckle-Timbered Hills	Moderate
	Arkansas Novaculite	Moderate
	Rush Springs	Moderate
	Vamoosa-Ada	Moderate
	Central Oklahoma	Moderate
	Ouachita Mountains	Low
	Ogallala	Low
	Cretaceous	Low
	Permian	Low
	Pennsylvanian	Low
	Mesozoic	Very Low
	Tishomingo Granite	Very Low
	Washita Igneous	Very Low

The vulnerability level may vary within each hydrogeologic basin, depending on site-specific hydrogeologic factors.

Table 2. Designations of Nutrient-Vulnerable Groundwater

NAME OF HYDROGEOLOGIC BASIN		VULNERABILITY LEVEL
Alluvium and Terrace Deposits	of the North Fork of the Red River	Very High
	of the Salt Fork of the Arkansas River	Very High
	of the Red River	Very High
	of the Washita River	Very High
	Enid Isolated Terrace	Very High
	Canadian River	Very High
	of the Arkansas River	Very High
	of the Cimarron River	Very High
	of the North Canadian River	Very High
	Gerty Sand	High
	all other alluvium and terrace deposits	High-Very High
Bedrock	Boone	High
	Arbuckle-Simpson	High
	Blaine	High
	Elk City	High

APPENDIX E. REQUIREMENTS FOR DEVELOPMENT OF SITE-SPECIFIC CRITERIA FOR CERTAIN PARAMETERS

A. General Applicability to Metals

Numerical criteria for metals to protect aquatic life are referenced in OAC 252:730-5-12(f)(6)(G) and Table 2 of Appendix G of this Chapter. For permitting purposes, such criteria for total recoverable Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Silver, and Zinc may be translated into dissolved metals criteria using the conversion factors referenced in OAC 252:730-5-12(f)(6)(H) and Table 3 of Appendix G. Criteria for parameters other than metals are also located in Table 2 of Appendix G.

An additional alternative which may be utilized for permitting purposes is to determine site-specific criteria from either the total recoverable or the dissolved criteria. However, federal regulations found at 40 CFR 122.45(c) require that NPDES permit limits must express metals concentrations as total recoverable, not dissolved. Therefore, if dissolved criteria for metals are implemented, they must be translated to site-specific total metals criteria to be used in the issuance of permit limits consistent with OAC 252:740.

The permitting authority may issue a total recoverable permit limit if statewide total recoverable criteria are appropriate in the permitting authority's view, and/or satisfactory in the permittee's view. If permit limits obtained using total recoverable criteria are unsatisfactory to the permittee, the permittee may attempt to obtain different permit limits by developing site-specific criteria in accordance with the provisions of this Appendix.

Implementation of site-specific criteria may reduce the margin of safety afforded by implementation of criteria per OAC 252:730-5-12(f)(6)(G) and Table 2 of Appendix G. Therefore, it is important that background concentration (which reduces the assimilation capacity of receiving water) be accounted for when site-specific criteria are implemented. Determination of background concentration requires a minimum of twelve samples collected over twelve months.

In order to develop permissible site-specific criteria, this Appendix must be followed to the satisfaction of the permitting authority and DEQ. A work plan explaining sampling and analysis procedures and quality assurance/quality control must be approved by DEQ prior to commencing the site-specific study. Upon completion, results must be submitted to DEQ and the permitting authority. Permittees are strongly encouraged to evaluate both the discharge and receiving water using clean sampling techniques.

Upon DEQ approval, site-specific criteria shall be promulgated as part of this Appendix following the next subsequent permanent rulemaking to amend OAC 252:730. These site-specific criteria supersede other numeric criteria promulgated elsewhere in this Chapter ~~chapter~~ if it is shown to the satisfaction of DEQ that properties of the discharge or the circumstances surrounding the development of the site-specific criteria have not significantly changed since the promulgation of those site-specific criteria. Such criteria and the conditions around which they were derived, including but not limited to local environmental factors and effluent characteristics, shall be re-evaluated by the permit holder with each subsequent discharge permit renewal application or major

modification request to determine if any significant changes have affected the propriety of the site-specific criteria.

B. Site-Specific Criteria Applicability for NPDES Permit Activities

Oklahoma's site-specific criteria, except as otherwise specified, apply where the maximum concentration on the chronic regulatory mixing zone boundary occurs under critical conditions for receiving streams where Q*>0.1823 and on the acute regulatory mixing zone boundary for streams where Q*≤0.1823. Critical conditions include regulatory effluent and receiving stream flows. OAC 252:740-5-2(C) requires that effluent flow, Q_e, be the highest monthly averaged discharge if sufficient data is available or the design flow otherwise. When chronic criteria implementation is appropriate, OAC 252:730-5-4 requires that the receiving stream flow, Q_u, be the larger of 7Q2 or 1 cfs. ~~One~~ 1 cfs shall be used if the regulatory low flow ~~7Q2~~ cannot be determined. The discharger shall be required to determine the regulatory low flow ~~7Q2~~ per OAC 252:740-1-6 prior to the next permit cycle at which time the permit limits may be revised using the newly calculated Q_u (252:740-1-6(d)).

The maximum concentration on the mixing zone boundary may be simulated by mixing effluent and receiving water. Percent effluent in receiving water, PE, depends upon the dilution capacity of the stream and shall not exceed 100%. Dilution capacity, for streams, is represented as $Q^* = Q_e/Q_u$.

The following formulas shall be used to determine PE for receiving streams:
For streams with large dilution capacities (Q* < or equal to 0.1823), PE equals (194Q*) divided by (1 + Q*). PE for Q*< or equal to 0.1823 shall not be less than 10%.

For streams with intermediate dilution capacities (0.1823 < Q* < 0.3333), PE equals (100) divided by (6.17 - 15.51Q*).

For streams with small dilution capacities (Q* > or equal to 0.3333), PE equals 100%.

Site-specific criteria in Oklahoma lakes are also based on the maximum concentration on the mixing zone boundary. The following formulas shall be used to determine PE for lakes:

PE equals 4.96D, D > or equal to 3 feet where D is pipe diameter.

PE equals $23.8\sqrt{W}$, W > or equal to 3 feet where W is canal width.

As with streams, PE is always less than or equal to 100% for lakes.

If PE is calculated to be less than 10%, then effluent water effect ratios shall use PE = 10%.

"Waterbody-specific" criteria, such as segment-specific metals, may not have limitations on its applicability. Rather, it may be used a substitute for other applicable statewide criteria for the entire waterbody.

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Site-specific criteria are dependent, in part, on specific properties of the effluent that influence the bioavailability and toxicity of metals. Substantial changes in the quality or quantity of the effluent may affect the resulting site-specific criterion. Therefore, if the existing permit contains requirements for toxicity reduction evaluations (TREs) or pollution prevention efforts, a site-specific criterion should not be developed until after these efforts have been completed. A new site-specific criteria study would likely have to be performed after those requirements are met because the characteristics of the effluent may significantly change (e.g., hardness, pH, TDS). In cases where the quality or quantity of an effluent changes, the burden rests on the permittee to demonstrate that the effluent characteristics are not significantly altered to a degree that would affect the validity of the outcomes of the original site-specific criteria study. A site-specific criterion may need to be re-evaluated periodically to reflect changes in the system that may alter the characteristics of either the receiving water or effluent.

C. Site-Specific Criteria Applicability for Activities Not Related to NPDES Permits

In certain circumstances, statewide numeric criteria for parameters other than metals may be replaced by segment-specific criteria for specific parameters applicable to just one waterbody. These criteria will be applicable to any point in the waterbody. These criteria must be shown to be protective of native aquatic life through procedures similar to those used in the WER procedures detailed here and in DEQ approved technical guidance.

Development of segment-specific criteria for minerals should follow DEQ approved technical guidance. Certain cases may require additional data or justification, but this document should provide sufficient basic guidance for the development of alternative criteria. Development of site-specific or segment-specific criteria for parameters for other than metals or minerals and lacking specific guidance documents will require extensive coordination with technical staff from DEQ and the permitting authority.

D. Sampling Procedures

General guidance for field sampling can be found in DEQ approved technical guidance. The permittee shall collect both receiving water and effluent, and mix them together to obtain PE. Ambient water collections shall be representative of low stream flow events and collected at a location unaffected by the discharge being permitted. Twenty-four (24) hour composite effluent samples representative of normal operation shall be collected at the outfall such that any periodic toxic discharges are captured and average effluent conditions are represented. Outfalls may be combined proportional to flow if in close proximity. Clean sampling techniques shall be used where possible and samples shall be analyzed by an Oklahoma certified laboratory utilizing generally accepted methods. Dilution water must be made in accordance with approved methods. The pH, hardness, conductivity and alkalinity must be similar to that of the receiving water.

Site-specific criteria development for lakes should employ DEQ approved sampling procedures. Deviation from approved procedures and techniques must be justified to DEQ and the permitting authority prior to initiation of the sampling. Excursions from these techniques that occur as a result of on-site conditions must be reported to DEQ and the permitting authority as soon as possible. Implications of these deviations on the data quality and their appropriateness to the outcomes of

the study must be reviewed and agreed upon by DEQ and the permitting authority prior to their use in the derivation of any criteria.

For systems lacking NPDES permitted dischargers, sampling procedures for determining background concentration should follow DEQ approved technical guidance for characterizing local conditions.

E. Site-Specific Criteria Development ~~Options~~ Methods for Metals:

~~Prior to the initiation of any work toward development of a site-specific criterion, interested parties must coordinate with DEQ technical staff. Such coordination will require, at a minimum, a workplan addressing project goals, collection and testing methods, quality assurance measures, and output schedules. This workplan will need to be reviewed and approved by DEQ and the permitting authority prior to initiation of any work.~~

~~Three options are available if the permittee decides to develop site-specific metals criteria for permitting purposes instead of utilizing the total recoverable criteria referenced in OAC 252:730-5-12(f)(6)(G) and Table 2 of Appendix G.~~

A proposal based on one or more of the site-specific criteria development options provided in this appendix may be submitted to DEQ for potential adoption. Prior to the initiation of any work toward development of a site-specific criterion, interested parties must coordinate with DEQ technical staff. Such coordination will require, at a minimum, a workplan addressing project goals, sample collection and testing methods, quality assurance measures, and output schedules. This workplan will need to be reviewed and approved by DEQ and the permitting authority prior to initiation of any work.

The methods provided in this appendix are to be used to develop site-specific metals criteria as an alternative to utilizing the total recoverable criteria referenced in OAC 252:730-5-12(f)(6)(G) and Table 2 of Appendix G. The results of a site-specific criteria development study will be approved if shown to be scientifically defensible and adequately protective of the waterbody's beneficial uses.

1. Method 1: Copper Biotic Ligand Model

The BLM for copper uses inputs for ten water chemistry parameters (pH, dissolved organic carbon, calcium, magnesium, sodium, sulfate, potassium, chloride, alkalinity, and temperature) to determine site-specific dissolved copper criteria that are representative of toxicity to aquatic life. This method for the calculation of site-specific criteria reflects the best available science for determining biologically available copper. Further information about the model can be found in the document "Aquatic Life Ambient Freshwater Quality Criteria - Copper 2007 Revision" (EPA-822-R-07-001).

2. ~~Option 1~~Method 2: Water Effects Ratio (WER)

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The permittee may obtain a site-specific water effects ratio (WER) to translate a statewide total criterion to a site-specific total criterion if the existing permit does not contain requirements for toxicity reduction evaluations or implementation of pollution prevention efforts. Toxicity tests using both laboratory dilution water and PE water must be performed. PE water is obtained by first determining the amount of water required for the toxicity test (e.g. 1L). Since PE = $100V_e/(V_e + V_r)$, where V_e and V_r are volumes of effluent and receiving water required for the toxicity test, respectively, then V_e = PE/100 (L). If PE = 25%, then V_e = 0.25L. Given that $V_e + V_r$ = 1 (L) in this example, V_r = 1 - PE/100, or 0.75L.

Toxicity tests using two different species are required. Acute 48-hour static renewal definitive toxicity tests shall be performed by the permittee in accordance with approved methods for acute testing identified above. LC_{50} tests shall be used to determine WERs for both acute and chronic criteria. Toxicity tests require adding metal to both PE and dilution water. It shall not be acceptable to estimate metal concentrations by measuring the amount added. Total recoverable concentrations must be used to obtain LC_{50} values for both test species for PE and laboratory water in Method 2.

Multiple WERs must be performed. At a minimum, three tests in three different seasons must be performed for two test species. WER is computed as $LC_{50dilution}/LC_{50PE}$. A geometric mean of the WERs is the final water effect ratio, FWER. A minimum of four WERs must be used in the computation of FWER. An explanation of any WERs obtained but not used in computation of FWER must be provided to the permitting authority and DEQ. The total criterion specified in Table 2 of Appendix G is divided by FWER to obtain a site-specific total criterion. Background concentration must be determined to use with the site-specific criterion to develop permit limits.

3. Method 3~~Option 2~~: Dissolved to Total Fraction

Dissolved and total recoverable concentrations must be obtained to determine a dissolved to total fraction. Samples must be taken from the effluent, receiving water and PE water. The dissolved to total fraction must be successfully computed a minimum of ten times.

The dissolved to total fraction is defined as $f_i = C_{Di}/C_{Ti}$, where C_{Di} is the dissolved concentration in the *i*th PE sample, and C_{Ti} is the total recoverable concentration. The dissolved fraction for the site shall be determined as the geometric mean for the n samples.

$$\therefore f = \exp\left[\sum_{i=1}^{n} [\ln(f_i)]/n \right]$$

To develop a site-specific criterion from the dissolved fraction alone, divide the dissolved criterion determined from Table 3 of Appendix G by f. The result is a site-specific total recoverable criterion.

4. Method 4~~Option 3~~: Combining f and FWER

The most definitive method of developing a site-specific criterion is to modify a dissolved criterion to account for both the fraction of the concentration biologically available and the difference between the toxicity of the metal in the laboratory dilution water and in PE water. In order to perform method ~~option 3~~4, WERs must be obtained using dissolved concentrations. This accounts for differences between the toxicity of the dissolved metal in laboratory dilution water and dissolved metal in PE water.

A translator, T, is obtained as the product of f and dissolved FWER. T is divided into the dissolved criterion determined from Table 3 of Appendix G to obtain a site-specific total recoverable criterion.

5. Method 5: Selenium BAF Fish Tissue Study

Site-specific criteria for selenium shall be developed using a BAF study approvable by DEQ. Prior to the start of any study, the workplan and appropriate quality assurance project plan need to be approved by DEQ. A site-specific BAF study requires both fish tissue (muscle or whole-body) and water column data.

6. Method 6: Multiple Linear Regression Model

A Multiple Linear Regression model, or other scientifically defensible criteria development model, may be utilized to develop site-specific criteria for copper. The entity requesting the site-specific criterion must provide sufficient justification for the use of the model subject to DEQ's discretion.

F. Site-Specific Criteria for Metals Which Have Been Developed for Particular Waterbodies

Subsequent to the initial promulgation of this Appendix, there have been cases in which interested persons have developed site-specific criteria for particular discharges or other circumstances in accordance with this Appendix. Such site-specific criteria are set forth below. These site-specific criteria shall be interpreted according to the following:

C_{ast} = acute statewide total criterion
C_{cst} = chronic statewide total criterion
C_{asd} = acute statewide dissolved criterion
C_{csd} = chronic statewide dissolved criterion
S_{ast} = acute site-specific total criterion
S_{cst} = chronic site-specific total criterion
$FWER_t$ = final total water effects ratio
$FWER_d$ = final dissolved water effect ratio
f = dissolved to total fraction

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Acute site-specific criteria are appropriate for large streams and chronic site-specific criteria are appropriate for small and medium size streams.

~~Options~~ Methods Allowed in ~~In~~ Appendix E:

~~Option 1~~ Method 2

$S_{ast} = C_{ast}/FWER_t$

$S_{cst} = C_{cst}/FWER_t$

~~Option 2~~Method 3

$S_{ast} = C_{csd}/f$

$S_{cst} = C_{csd}/f$

~~Option 3~~Method 4

$S_{ast} = C_{csd}/(fxFWER_d)$

$S_{cst} = C_{csd}/(fxFWER_d)$

1. City of Blackwell Discharge to Chikaskia River (OK621100000010_10): Cadmium

A site-specific criteria modification study has been satisfactorily completed for cadmium for the City of Blackwell.

$FWER_t = 0.0989$
$FWER_d = 0.2905$
$f = 0.18$

The results of the study allow any of the four following criteria to be utilized.

$C_{cst} = 0.51$ µg/L	Statewide criterion
$S_{cst} = 5.1$ µg/L	~~Option 1~~Method 2
$S_{cst} = 2.45$ µg/L	~~Option 2~~Method 3
$S_{cst} = 8.45$ µg/L	~~Option 3~~Method 4

The discharger may choose the above criterion it wishes to use for discharge permit calculations.

2. AES Shady Point Discharge to Poteau River (OK220100010010_20): Copper

A site-specific criteria modification study has been satisfactorily completed for copper for AES Shady Point.

$FWER_t = 0.0876$
$FWER_d = 0.1306$

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f = 0.5936

The results of the study allow any of the four following criteria to be utilized.

C_{cst} = 9.50 µg/L	Statewide criterion
S_{cst} = 65 µg/L	~~Option 1~~Method 2
S_{cst} = 15.3 µg/L	~~Option 2~~Method 3
S_{cst} = 74 µg/L	~~Option 3~~Method 4

The discharger may choose the above criterion it wishes to use for discharge permit calculations.

3. City of Idabel Discharge to Mud Creek (OK410200010210_00) at SW 1/4 of SW 1/4 of SW 1/4 of Section 15, ~~T 8 S, R 24 E~~T8S, R24E, IM, McCurtain County, Oklahoma (Latitude 33° 51' 14.621" North, Longitude 94° 47' 22.200" West)

A. Lead

A site-specific criteria modification study has been satisfactorily completed for lead for the City of Idabel.

$FWER_t$ = 2.5912
$FWER_d$ = 0.2914
f = 0.7157

The results of the study allow any of the four following criteria to be utilized.

C_{cst} = 2.3492 µg/L	Statewide criterion
S_{cst} = 0.9066 µg/L	~~Option 1~~Method 2
S_{cst} = 2.7104 µg/L	~~Option 2~~ Method 3
S_{cst} = 9.3036 µg/L	~~Option 3~~ Method 4

The discharger may choose the above criterion it wishes to use for discharge permit calculations.

B. Nickel

A site-specific criteria modification study has been satisfactorily completed for nickel for the City of Idabel.

$FWER_t$ = 1.1244
$FWER_d$ = 0.9735
f = 0.5798

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The results of the study allow any of the four following criteria to be utilized.

C_{cst} = 46.82 µg/L	Statewide criterion
S_{cst} = 41.6 µg/L	~~Option 1~~ Method 2
S_{cst} = 80.50 µg/L	~~Option 2~~ Method 3
S_{cst} = 82.69 µg/L	~~Option 3~~ Method 4

The discharger may choose the above criterion it wishes to use for discharge permit calculations.

C. Zinc

A site-specific criteria modification study has been satisfactorily completed for zinc for the City of Idabel.

$FWER_t$ = 0.6714
$FWER_d$ = 0.7178
f = 0.6213

The results of the study allow any of the four following criteria to be utilized.

C_{ast} = 107.52 µg/L	Statewide criterion
S_{ast} = 160.14 µg/L	~~Option 1~~ Method 2
S_{ast} = 169.24 µg/L	~~Option 2~~ Method 3
S_{ast} = 235.78 µg/L	~~Option 3~~ Method 4

The discharger may choose the above criterion it wishes to use for discharge permit calculations.

~~**D. Copper**~~

~~A site-specific criteria modification study has been satisfactorily completed for copper for the City of Idabel discharge to Mud Creek. All criteria are calculated at an in-stream hardness of 32.00 mg/L.~~ ~~**[Effective as state water quality criteria only; not effective for Clean Water Act programs.]**~~

~~$FWER_t$ = 0.1409~~
~~$FWER_d$ = 0.1541~~
~~f = 0.7527~~

~~The results of the study allow any of the four following criteria to be utilized.~~

~~Ccst = 4.83 µg/L~~	~~Statewide criterion~~
~~Scst = 31.34 µg/L~~	~~Option 1~~
~~Scst = 6.16 µg/L~~	~~Option 2~~
~~Scst = 39.97 µg/L~~	~~Option 3~~

SUPP

~~Cast = 6.56 µg/L Statewide criterion~~
~~Sast = 42.56 µg/L Option 1~~
~~Sast = 8.37 µg/L Option 2~~
~~Sast = 54.28 µg/L Option 3~~

~~The discharger may choose the above criterion it wishes to use for discharge permit calculations.~~

4. Oklahoma Gas & Electric Mustang Generating Station Discharge to North Canadian River (OK520520000250_00) at NE 1/4 of NE 1/4 of SE 1/4 of Section 36, ~~T 12 N, R 5 W~~ T12N, R5W, IM, Canadian County, Oklahoma: Copper

A site-specific criteria modification study has been satisfactorily completed for copper for the Oklahoma Gas & Electric Mustang Generating Station discharge to the North Canadian River.

$FWER_t$ = 0.053
$FWER_d$ = 0.224
f = 0.368 (0.37)

The results of the study allow any of the four following criteria to be utilized. All criteria are calculated at an in-stream hardness of 334 mg/L.

C_{cst} = 35.9 µg/L	Statewide criterion
S_{cst} = 677 µg/L	~~Option 1~~ Method 2
S_{cst} = 94.0 µg/L	~~Option 2~~ Method 3
S_{cst} = 416.0 µg/L	~~Option 3~~ Method 4 (Recommended in OG&E study)

C_{ast} = 59.8 µg/L	Statewide criterion
S_{ast} = 1,128 µg/L	~~Option 1~~Method 2
S_{ast} = 156.0 µg/L	~~Option 2~~ Method 3
S_{ast} = 692.0 µg/L	~~Option 3~~ Method 4 (Recommended in OG&E study)

The discharger may choose the above criterion it wishes to use for discharge permit calculations.

5. City of Poteau Discharge to Poteau River (OK220200010010_40) at SE 1/4 of NW 1/4 of Section 30, ~~T 7 N, R 26 E~~T7N, R26E, IM, LeFlore County, Oklahoma

A. Copper

A site-specific criteria modification study has been satisfactorily completed for copper for the City of Poteau discharge to the Poteau River.

$FWER_t$ = 0.1850
$FWER_d$ = 0.1765
f = 0.2969

SUP

The results of the study allow any of the four following criteria to be utilized. All criteria are calculated at an in-stream hardness of 25.75 mg/L.

C_{cst} = 4.02 µg/L Statewide criterion
S_{cst} = 21.73 µg/L ~~Option 1~~ Method 2
S_{cst} = 13.0 µg/L ~~Option 2~~ Method 3
S_{cst} = 73.66 µg/L ~~Option 3~~ Method 4 (Recommended in Poteau study)

C_{ast} = 5.35 µg/L Statewide criterion
S_{ast} = 28.92 µg/L ~~Option 1~~ Method 2
S_{ast} = 17.31 µg/L ~~Option 2~~ Method 3
S_{ast} = 98.09 µg/L ~~Option 3~~ Method 4 (Recommended in Poteau study)

The discharger may choose the above criterion it wishes to use for discharge permit calculations.

B. Zinc

A site-specific criteria modification study has been satisfactorily completed for zinc for the City of Poteau discharge to the Poteau River.

$FWER_t$ = 0.4040
$FWER_d$ = 0.4276

The results of the study allow any of the four following criteria to be utilized. All criteria are calculated at an in-stream hardness of 25.75 mg/L. However, ~~option 1~~method 2 was deemed sufficient to provide relief from a zinc limit in the discharge permit.

C_{ast} = 37.95 µg/L Statewide criterion
S_{ast} = 93.95 µg/L ~~Option 1~~ Method 2 (Recommended in Poteau study)

~~**C. Cadmium**~~

~~A site-specific criteria modification study has been satisfactorily completed for cadmium for the City of Poteau discharge to the Poteau River.~~ ~~**[Effective as state water quality criteria only; not effective for Clean Water Act programs.]**~~

~~$FWER_t$ = 0.2427~~
~~$FWER_d$ = 0.2400~~

~~The results of the study allow any of the following criteria to be utilized. All criteria are calculated at an in-stream hardness of 25.75 mg/L.~~

~~C_{cst} = 0.39 µg/L Statewide criterion~~
~~S_{cst} = 1.61 µg/L Option 1~~
~~S_{cst} = 0.38 µg/L Option 2~~
~~S_{cst} = 1.58 µg/L Option 3 (Recommended in Poteau study)~~

SUP

~~C_{ast} = 7.30 µg/L Statewide criterion~~
~~S_{ast} = 30.08 µg/L Option 1~~
~~S_{ast} = 7.31 µg/L Option 2~~
~~S_{ast} = 30.46 µg/L Option 3 (Recommended in Poteau study)~~

~~The discharger may choose the above criterion it wishes to use for discharge permit calculations.~~

~~D. Silver~~

~~A site-specific criteria modification study has been satisfactorily completed for silver for the City of Poteau discharge to the Poteau River.~~ **~~[Effective as state water quality criteria only; not effective for Clean Water Act programs.]~~**

~~$FWER_t$ = 0.2075~~
~~$FWER_d$ = 0.2908~~

~~The results of the study allow any of the following criteria to be utilized. All criteria are calculated at an in-stream hardness of 25.75 mg/L.~~

~~Statewide chronic criteria are available for this parameter.~~

~~C_{ast} = 0.39 µg/L Statewide criterion~~
~~S_{ast} = 1.88 µg/L Option 1~~
~~S_{ast} = 0.94 µg/L Option 2~~
~~S_{ast} = 3.24 µg/L Option 3 (Recommended in Poteau study)~~

~~The discharger may choose the above criterion it wishes to use for discharge permit calculations.~~

~~E. Lead~~

~~A site-specific criteria modification study has been satisfactorily completed for lead for the City of Poteau discharge to the Poteau River.~~ **~~[Effective as state water quality criteria only; not effective for Clean Water Act programs.]~~**

~~$FWER_t$ = 0.1782~~
~~$FWER_d$ = 0.1828~~

~~The results of the study allow any of the following criteria to be utilized. All criteria are calculated at an in-stream hardness of 25.75 mg/L.~~

~~C_{est} = 0.57 µg/L Statewide criterion~~
~~S_{est} = 3.20 µg/L Option 1~~
~~S_{est} = 0.59 µg/L Option 2~~
~~S_{est} = 3.25 µg/L Option 3 (Recommended in Poteau study)~~

SUPP

~~C_{ast} = 14.52 µg/L Statewide criterion~~
~~S_{ast} = 81.48 µg/L Option 1~~
~~S_{ast} = 15.15 µg/L Option 2~~
~~S_{ast} = 82.88 µg/L Option 3 (Recommended in Poteau study)~~

~~The discharger may choose the above criterion it wishes to use for discharge permit calculations.~~

6. City of Heavener Discharge to Morris Creek (OK220100020100_00) at SE 1/4 of NW 1/4 of Section 30, ~~T 7 N, R 26 E~~ T7N, R26E, IM, LeFlore County, Oklahoma: Copper

A site-specific criteria modification study has been satisfactorily completed for copper for the City of Heavener discharge to Morris Creek.

$FWER_t$ = 0.1294
$FWER_d$ = 0.1216
f = 0.8595

The results of the study allow any of the four following criteria to be utilized. All criteria are calculated at an in-stream hardness of 25.75 mg/L.

C_{cst} = 4.02 µg/L Statewide criterion
S_{cst} = 31.07 µg/L ~~Option 1~~ Method 2
S_{cst} = 4.68 µg/L ~~Option 2~~ Method 3
S_{cst} = 38.50 µg/L ~~Option 3~~ Method 4 (Recommended in Morris Ck. study)

C_{ast} = 5.35 µg/L Statewide criterion
S_{ast} = 41.34 µg/L ~~Option 1~~ Method 2
S_{ast} = 6.22 µg/L ~~Option 2~~ Method 3
S_{ast} = 51.19 µg/L ~~Option 3~~ Method 4 (Recommended in Morris Ck. study)

The discharger may choose the above criterion it wishes to use for discharge permit calculations.

7. City of Broken Bow to Unnamed Tributary of Yanubbe Creek (OK410200010155_00) at SE 1/4 of SE 1/4 of SE 1/4 of Section 18, ~~T 6 S, R 24 E~~T6S, R24E, IM, McCurtain County, Oklahoma (Latitude 34° 01’ 37.165" North, Longitude 94° 43’ 22.270" West)

A. Copper

A site-specific criteria modification study has been satisfactorily completed for copper for the City of Broken Bow Public Works Authority discharge to Unnamed Tributary of Yanubbe Creek. All criteria are calculated at an in-stream hardness of 34.9 mg/L.

$FWER_t$ = 0.0995
$FWER_d$ = 0.1253

SUP

f = 0.6544

The results of the study allow any of the four following criteria to be utilized

C_{cst} = 5.20 µg/L	Statewide criterion
S_{cst} = 52.28 µg/L	~~Option 1~~ Method 2
S_{cst} = 7.628 µg/L	~~Option 2~~ Method 3
S_{cst} = 60.87 µg/L	~~Option 3~~ Method 4

C_{ast} = 7.12 µg/L	Statewide criterion
S_{ast} = 71.58 µg/L	~~Option 1~~ Method 2
S_{ast} = 10.45 µg/L	~~Option 2~~ Method 3
S_{ast} = 83.34 µg/L	~~Option 3~~ Method 4

B. Zinc

A site-specific criteria modification study has been satisfactorily completed for zinc for the City of Broken Bow Public Works Authority discharge to Unnamed Tributary of Yanubbe Creek. All criteria are calculated at an in-stream hardness of 34.9 mg/L.

$FWER_t$ = 0.6312
$FWER_d$ = 0.7502
f = 0.7343

C_{ast} = 49.11 µg/L	Statewide criterion
S_{ast} = 77.77 µg/L	~~Option 1~~ Method 2
S_{ast} = 65.32 µg/L	~~Option 2~~ Method 3
S_{ast} = 86.87 µg/L	~~Option 3~~ Method 4

G. Site-Specific Criteria for Parameters Other Than Metals

The purpose of site-specific criteria investigations may not necessarily be intended to prevent toxicity as a result of the substance of concern. Various substances may produce various types of adverse impacts in the environment. For example, minerals may produce a toxic response due to ionic imbalance while nutrients may produce various impacts depending upon algal response to various conditions within the system. Examples of such systems include those where there may be nitrogen, phosphorus or light limitations. Resulting site-specific criteria may involve seasonal, spatial or other limitations as well as specific numeric limitations.
"Waterbody-specific" criteria, such as certain nutrients in waters designated SWS or SWS-R, or segment-specific metals, may not have limitations on its applicability. Rather, it may be used a substitute for other applicable statewide criteria.

Development of site-specific criteria for minerals should follow approved methods. Certain cases may require additional data or justification, but approved guidance documents should provide sufficient basic guidance for the development of site-specific criteria.

SUPP

Development of site-specific criteria for parameters other than metals or minerals and lacking specific guidance documents will require extensive coordination with technical staff from DEQ and the permitting authority. Such coordination will require, at a minimum, a workplan addressing project goals, collection and testing methods, quality assurance measures and output schedules. This workplan will need to be reviewed and approved by DEQ and the permitting authority prior to initiation of any work.

Those instances in which site-specific phosphorus or nitrogen criteria may be promulgated pursuant to OAC 252:730-5-10(7) titled "Chlorophyll-a numerical criterion for certain waters" will be limited to those waterbodies that have been shown to be impaired by nutrients and a numeric nutrient criterion has been determined to be the best way to affect reductions in the target nutrient. Such a demonstration will follow procedures outlined in OAC 252:740-15-10. Criteria may be derived from the result of "Clean Lake Studies" or other site-specific investigations performed by an agency of competent authority or a designee.

In cases where toxicity may be a concern due to the parameter in question, toxicity testing using two different species is required. Such testing should comply with the procedures detailed in OAC 252:606 and approved guidance. Exceptions to or deviations from these protocols should be brought to the attention of DEQ and the permitting authority prior to completion of the testing and thoroughly detailed in the final report.

H. Site-Specific Criteria for Nutrients Which Have Been Developed for Particular Waterbodies

(reserved)

I. Site-Specific Criteria for Other Parameters Which Have Been Developed for Particular Waterbodies

1. **PSO Comanche Power Station discharge to a tributary of Ninemile Creek (OK311300020032_00) and Ninemile Creek (OK311300020030_00) upstream of the confluence with East Cache Creek (OK31130020010_00) at Section 4, ~~T 1 S, R 11 W~~ T1S, R11W, IM, Comanche County.**

   A site-specific mineral study has been satisfactorily completed on these waterbodies indicating that the actual agricultural uses of the waterbody are capable of tolerating more mineral input than currently allowed by the default values in Appendix F for segment 311300. The following criteria are allowed for the protection of the actual agricultural usage of the water.

SUP

	Total Dissolved Solids	Sulfate	Chloride
Yearly mean standard (mg/L)	1,680	338	499
Sample standard (mg/L)	2,100	423	624

SUPP

APPENDIX F. STATISTICAL VALUES OF THE HISTORICAL DATA FOR MINERAL CONSTITUENTS OF WATER QUALITY (BEGINNING OCTOBER 1976 ENDING SEPTEMBER 1983, EXCEPT AS INDICATED)

The numbers in the "Segment" column on the far left of this Appendix refer to "WQM Segment" numbers which are described in the Introduction to Appendix A of this Chapter. Wherever a segment appears that is identified with an eight-digit segment number, such segment is a sub-watershed of the preceding six-digit WQM Segment. Details of the locations of these sub-watersheds are available from the Department of Environmental Quality. The numbers in the "Monitoring Station" column refer to the abbreviated numbers of the monitoring stations administered by the U.S. Geological Survey ("USGS"); to change an abbreviated number to the complete number used by the USGS, add the prefix digits "07" and add suffix digits of zeroes in order to produce an eight-digit number. In some cases, "Ambient Trend Monitoring" ("ATM") stations were used from streams where no USGS gauge was located. Numbering of these ATM stations complied with the USGS numbering format. The ATM station data have been considered for all stations, including USGS gauges, where available and have been incorporated into the results for that segment where appropriate. The letters "AVG" in the "Monitoring Station" column indicate an average wherever there are multiple monitoring stations in a WQM Segment; the numbers to the right of the "AVG" represent the averages of the historical data for the various monitoring stations.

SEGMENT	MONITORING STATION	CHLORIDE (mg/L)		SULFATE (mg/L)		TOTAL DISSOLVED SOLIDS AT 180°C (mg/L)	
		YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD
120400	1945	492	703	116	153	726	998
	1946	304	393	91	115		
	AVG	**398**	**548**	**104**	**134**	726	998
120410	16557	629	810	140	172	1,419	1,782
120420	1644	743	971	143	172	1,608	2,033
	1645	694	878	150	183	1,482	1,827
	(1)					1,398	1,743
	AVG	**719**	**925**	**147**	**178**	**1,496**	**1,868**
121300	1765	89	123	30	41	334	396
	17805	93	119	60	76		
	1784	85	109	60	78		
	(1)					440	544
	AVG	**89**	**117**	**50**	**65**	**387**	**470**
121400	1730	40	55	27	35	264	313
	1742	123	172	32	45	457	590

SEGMENT	MONITORING STATION	CHLORIDE (mg/L)		SULFATE (mg/L)		TOTAL DISSOLVED SOLIDS AT 180ºC (mg/L)	
		YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD
	1755	131	177	42	56	457	576
	(1)					461	585
	AVG	**98**	**135**	**34**	**45**	**410**	**516**
121500	1714	38	51	86	129	367	512
	1760	74	102	69	93		
	17862	62	81	64	80	332	399
	1788	56	72	67	90		
	1790	70	96	58	76		
	AVG	**60**	**80**	**69**	**94**	**350**	**456**
121510	1710	65	88	88	135	326	411
~~12151001(4)~~		~~194~~	~~287~~	~~745~~	~~963~~	~~1232~~	~~1572~~
121600	1850	29	41	126	183	442	547
	1880	19	27	62	82	283	324
	1905	15	20	43	57	184	205
	19122	18	24	29	48		
	1915	29	43	53	73	176	195
	19155	23	34	60	88	241	287
	1935	16	20	43	50	189	207
	AVG	**21**	**30**	**59**	**83**	**253**	**294**
121610	19156	100	148	121	162		
121700	1955	17	23	20	27	184	230
	1960	19	26	23	32	171	219
	1965	17	25	26	37	158	184
	1970	13	19	22	31	133	156
	1980	37	56	35	57	160	195
	AVG	21	30	25	37	161	197
220100	2485	13	19	21	29	104	125
	24944	41	67	48	69	171	228
	AVG	**27**	**43**	**35**	**49**	**138**	**177**
220200	2464	225	295	71	87	534	644
	(1)					490	596
	AVG	**225**	**295**	**71**	**87**	**512**	**620**
220300	2450	83	96	52	60	320	357

SUP

SEGMENT	MONITORING STATION	CHLORIDE (mg/L)		SULFATE (mg/L)		TOTAL DISSOLVED SOLIDS AT 180ºC (mg/L)	
		YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD
220600	2315	346	456	244	335	1,062	1,328
	2316	63	109	70	112		
	2317	281	371	232	317		
	(1)					612	777
	AVG	**230**	**312**	**182**	**255**	**837**	**1.053**
310800	3310	134	184	521	702	1,187	1,524
310810	3281	109	142	788	983		
	3285	144	198	721	933	3,008	4,409
	AVG	**127**	**170**	**755**	**958**	**3,008**	**4,409**
~~3108100 1(4) 3108100 2(4) 3108100 3(4) 3108100 4(4) 3108100 5(4)~~		~~106~~	~~161~~	~~154~~	~~248~~		
310820							
~~3108200 1(4) 3108200 2(4)~~		~~137~~	~~200~~	~~720~~	~~997~~		
310830	3244	92	131	1,196	1,461	2,010	2,396
	3255	137	176	1,190	1,463	2,237	2,733
	3265	247	387	1,004	1,287	2,457	3,157
	AVG	**159**	**231**	**1,130**	**1,404**	**2,235**	**2,762**
310840	3242	115	173	1,281	1,654	2,368	3,042
311100	3155	1,797	2,464	866	1,161	4,746	6,290
	3157	310	451	150	237		
	3159	328	447	172	253		
	3160	1,594	2,175	751	1,013	3,956	5,154

SUP

SEGMENT	MONITORING STATION	CHLORIDE (mg/L)		SULFATE (mg/L)		TOTAL DISSOLVED SOLIDS AT 180ºC (mg/L)	
		YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD
	AVG	**1,007**	**1,384**	**485**	**666**	**4,351**	**5,722**
~~3111000 3(4) 3111000 4(4)~~		~~239~~	~~352~~	~~206~~	~~298~~		
311200	31272	2,112	2,834	948	1,231		
	3135	142	195	221	307	904	1,137
	3136	395	561	266	376		
	AVG	**883**	**1197**	**478**	**638**	**904**	**1,137**
~~3112000 0(4)~~		~~92~~	~~130~~	~~248~~	~~358~~		
311210	3134	69	93	344	478		
~~3112100 0(4)~~		~~92~~	~~130~~	~~248~~	~~358~~		
311300	3090	65	92	135	173		
	3110	81	102	82	102	472	560
	AVG	**73**	**97**	**109**	**138**	**472**	**560**
311300 trib to Nine Mile Ck[2]		231	262	128	145	809	879
311300 Nine Mile Ck[2]		232	279	124	150	830	950
311500	3045	243	353	781	1,040	1,777	2,284
311310	3112	16	23	21	27	126	151
	311505	357	547	136	209		
	AVG	**187**	**285**	**79**	**118**	**126**	**151**
311510	3015	2,328	3,924	1,413	1,869		
	3030	5,612	8,948	1,308	1,703		
	(1)					2,334	2,815
	AVG	**3,970**	**6,436**	**1,361**	**1,786**	**2,334**	**2,815**
311600	3005	645	963	1,720	2,114		
	30111	690	856	1,451	1,755	3,331	3,969
	AVG	**668**	**910**	**1,586**	**1,935**	**3,331**	**3,969**

SUBP

SEGMENT	MONITORING STATION	CHLORIDE (mg/L)		SULFATE (mg/L)		TOTAL DISSOLVED SOLIDS AT 180ºC (mg/L)	
		YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD
311800	3035	9,875	13,569	1,939	2,401		
	(1)					37,568	58,087
	AVG	**9,875**	**13,569**	**1,939**	**2,401**	**37,568**	**58,087**
410100	33682	285	397	200	277	913	1,220
410200	3385	42	64	20	28	125	165
410210	3371	10	14	17	22	62	81
	3379	12	17	19	25	69	89
	AVG	**11**	**16**	**18**	**24**	**66**	**85**
410300	3362	16	24	21	28	1,174	2,023
410310	3357	7	10	13	18	31	38
410400	3340	38	53	44	65	235	283
	3350	106	149	59	90	427	537
	(1)					114	172
	AVG	**72**	**101**	**52**	**78**	**259**	**331**
410400 Red River Near Hugo[3]	3355	388	503	345	478	1,080	1,405
410600	3325	34	55	31	44	312	357
410700							
520500	2420	349	451	168	217	1,030	1,284
	2422	319	409	141	189		
	AVG	**334**	**430**	**155**	**203**	**1,030**	**1,284**
520510	2417	305	395	148	192		
520520	2399	219	261	260	317		
	24155	451	620	188	239	1,196	1,523
	AVG	**335**	**441**	**224**	**278**	**1,196**	**1,523**
520530	2390	270	318	369	469	1,156	1,240
	2395	267	337	475	640	1,300	1,552
	(1)					1,145	1,399
	AVG	**269**	**328**	**422**	**555**	**1,200**	**1,397**
520600	2294	259	342	309	414		

SEGMENT	MONITORING STATION	CHLORIDE (mg/L)		SULFATE (mg/L)		TOTAL DISSOLVED SOLIDS AT 180ºC (mg/L)	
		YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD
~~52060001 (4) 52060002 (4)~~		~~127~~	~~197~~	~~112~~	~~185~~		
520610	2292	255	353	433	570	1,114	1,410
520620	2285	336	488	568	724	1,458	1,849
~~52062002 (4) 52062003 (4) 52062006 (4)~~		~~38~~	~~49~~	~~1612~~	~~1918~~		
520700	2424	211	276	127	175		
	2425	219	291	117	165		
	2435	222	292	98	134	721	926
	AVG	**217**	**286**	**114**	**158**	**721**	**926**
520710	24235	253	342	159	207	841	1,085
520800	2300	104	130	50	73	486	581
	2310	765	1,065	75	115	1,538	2,063
	(1)					1,551	2,083
	AVG	**435**	**598**	**63**	**94**	**1,192**	**1,576**
520810	(1)					265	294
620900	1610	4,233	5,650	519	650	7,941	10,357
~~62090001 (4)~~		~~89~~	~~123~~	~~73~~	~~100~~		
~~62090003 (4)~~		~~135~~	~~220~~	~~376~~	~~657~~		

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SEGMENT	MONITORING STATION	CHLORIDE (mg/L)		SULFATE (mg/L)		TOTAL DISSOLVED SOLIDS AT 180ºC (mg/L)	
		YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD
620910	1584	12,076	17,506	1,670	2,171	18,760	26,005
	1591	7,464	10,162	729	921	14,809	19,580
	15972	174	218	255	304	901	1,072
	15975	182	233	242	301	879	1,091
	1600	4,813	6,431	633	799		
	1605	597	864	548	744	1,834	2,391
	AVG	**4,218**	**5,902**	**680**	**873**	**7,437**	**10,028**
~~6209100 3 (4)~~		~~135~~	~~220~~	~~376~~	~~657~~		
620920	15795	8,436	12,508	1,141	1,740	16,954	25,129
	15796	423	604	2,058	2,616	3,752	4,781
	AVG	**4,430**	**6,556**	**1,600**	**2,178**	**10,353**	**14,955**
~~6209200 4 (4)~~		~~158~~	~~230~~	~~1673~~	~~2446~~		
~~6209200 5 (4)~~		~~349~~	~~467~~	~~2394~~	~~3129~~		
621000	1505	5,658	8,174	706	918	10,577	14,972
	15226	1,089	1,473	283	360		
	AVG	**3,374**	**4,824**	**495**	**639**	**10,577**	**14,972**

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SEGMENT	MONITORING STATION	CHLORIDE (mg/L)		SULFATE (mg/L)		TOTAL DISSOLVED SOLIDS AT 180ºC (mg/L)	
		YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD
~~6210000 1 (4) 6210000 3 (4) 6210000 4 (4) 6210000 5 (4)~~		~~197~~	~~273~~	~~272~~	~~364~~		
621010	14845	288	388	936	1,173	1,886	2,306
~~6210100 1 (4)~~		~~158~~	~~230~~	~~1673~~	~~2446~~		
621100	1520	388	586	175	247	1,091	1,417
~~6211000 0 (4)~~		~~1073~~	~~1690~~	~~817~~	~~1111~~		
621200	14814	252	321	115	157		
	1525	536	738	144	185	1,111	1,405
	1530	544	811	45	65		
	AVG	**444**	**623**	**101**	**136**	**1,111**	**1,405**
621210	(1)	482	728	132	182		
720500	2340	1,455	1,893	890	1,192	3,847	4,938
	2375	450	562	597	785	1,878	2,359
	2380	300	379	681	955	1,602	1,732
	AVG	**735**	**945**	**723**	**977**	**2,442**	**3,010**
720900							

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SEGMENT	MONITORING STATION	CHLORIDE (mg/L)		SULFATE (mg/L)		TOTAL DISSOLVED SOLIDS AT 180ºC (mg/L)	
		YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD	YEARLY MEAN STANDARD	SAMPLE STANDARD
Notes:							
(1)	Indicates data obtained from Appendix B, WQS 1982						
(2)	Data collected from June 1999 through September 2000						
(3)	Data collected from November 1959 through December 1982 AND November 1998 through August 2000						
~~(4)~~	~~Data collected 1998 through 2003~~						

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APPENDIX G. NUMERICAL CRITERIA TO PROTECT BENEFICIAL USES

(a) **Introduction.** This Appendix prescribes numerical limits for certain criteria which are necessary to protect beneficial uses as and wherever designated. Table 1 is a chart that states the numerical limits to protect the beneficial use and subcategories of Fish and Wildlife Propagation for the single parameter of dissolved oxygen as set forth in OAC 252:730-5-12(f)(1). The latter limits vary depending upon several factors including the pertinent subcategory or fishery class, the time of the year, and the seasonal temperature. Table 2 prescribes the numerical limits for certain substances or parameters in order to protect beneficial uses and subcategories as set forth in OAC 252:730-5-10(1), 252:730-5-10(6), 252:730-5-12(f)(6), and 252:730-5-20. The numerical limits may vary from one beneficial use or subcategory to another according to how the criteria are required by OAC 252:730 or OAC 252:740 to be implemented.

For the Fish and Wildlife Propagation criteria in Table 2, unless otherwise noted, the acute criterion is the Criterion Maximum Concentration (CMC) applied as a one-hour average concentration, and the chronic criterion is the Criterion Continuous Concentration (CCC) applied as a 96-hour (4 days) average concentration. The CMC and CCC criteria may not be exceeded more than once every three years on the average. Footnotes 1 and 2, associated with 14 pollutants in Table 2, provide exceptions to the duration and frequency components described in this paragraph.

Table 3 is a chart that sets forth conversion factors that can be used to determine Fish and Wildlife Propagation criteria for dissolved metals (where not already expressed as dissolved criteria in Table 2) in order to protect the beneficial use of Fish and Wildlife Propagation and all its subcategories as set forth in OAC 252:730-5-12(f)(6)(H).

(b) **Explanations for abbreviations and certain terms in Tables.**

(1) "CAS #" refers to a parameter's Chemical Abstract Service registry number. Each of these numbers is a unique identifier of a particular compound with a particular structure; the number provides additional and further specificity for the parameter in question than simply identifying it by a systematic, generic, proprietary, or [trivial] name. The CAS number has no particular chemical significance.

(2) Equations are prescribed for those substances the toxicity of which varies with water chemistry.

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TABLE 1.

Dissolved Oxygen Criteria to Protect Fish and Wildlife Propagation and All Subcategories Thereof [1]

SUBCATEGORY OF FISH AND WILDLIFE PROPAGATION (FISHERY CLASS)	DATES APPLICABLE	DO CRITERIA[4] (MINIMUM) (mg/L)	SEASONAL TEMPERATURE (°C)
Habitat Limited Aquatic Community			
Early Life Stages	4/1 - 6/15	4.0	25[3]
Other Life Stages			
Summer Conditions	6/16 - 10/15	3.0	32
Winter Conditions	10/16 - 3/31	3.0	18
Warm Water Aquatic Community[5]			
Early Life Stages	4/1 - 6/15	6.0[2]	25[3]
Other Life Stages			
Summer Conditions	6/16 - 10/15	5.0[2]	32
Winter Conditions	10/16 - 3/31	5.0	18
Cool Water Aquatic Community & Trout			
Early Life Stages	3/1 - 5/31	7.0[2]	22
Other Life Stages			
Summer Conditions	6/1 - 10/15	6.0[2]	29
Winter Conditions	10/16 - 2/28	6.0	18

[1] For use in calculation of the allowable load.

[2] Because of natural diurnal dissolved oxygen fluctuation, a 1.0 mg/L dissolved oxygen concentration deficit shall be allowed for not more than eight (8) hours during any twenty-four (24) hour period.

[3] Discharge limits necessary to meet summer conditions will apply from June 1 of each year. However, where discharge limits based on Early Life Stage (spring) conditions are more restrictive, those limits may be extended to July 1.

[4] DO shall not exhibit concentrations less than the criteria magnitudes expressed above in greater than 10% of the samples as assessed across all life stages and seasons.

[5] For Lakes, the warm water aquatic community dissolved oxygen criteria expressed above are applicable to the surface waters.

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Table 2.
Numerical Criteria to Protect Beneficial Uses and All Subcategories Thereof

Parameter	CAS#	Fish and Wildlife Propagation		Public and Private Water Supply (Raw Water)	Fish Consumption (+Other Organisms and Water)	Fish Consumption (+Other Organisms)
		Acute	Chronic			
Inorganic		**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**
Antimony	**7440360**				**5.6**	**640**
Arsenic III	7440382	340	150	40		205
Asbestos	**1332214**				**7 million fibers/liter**	
Barium	7440393			1,000	**1,000**	
Cadmium (Dissolved)	7440439	e(1.0166[ln(hardness)]-3.924) *[1.136672-0.041838 ln(hardness)]	e(0.7409[ln(hardness)] -4.719)*[1.101672-0.041838 ln(hardness)]	20	14.49	84.13
Chromium (total)				50	166.3	3,365
Chromium (III) (Dissolved)	16065831	e(0.819[ln(hardness)] + 3.7256)*0.316	e(0.819[ln(hardness)] +0.6848)*0.860			
Chromium (VI) (Dissolved)	18540299	16	11			
Copper	7440508	e(0.9422[ln(hardness)] -1.3844)	e(0.8545[ln(hardness)] 1.386)	1,000		
Cyanide	57125	45.93	10.72	200		
Fluoride @ 90°F				4,000		
Lead	7439921	e(1.273[ln(hardness)]-1.460)	e(1.273[ln(hardness)] -4.705	100	5	25
Mercury	7439976	2.4	1.302	2	0.05	0.051
Nickel (Dissolved)	7440020	e(0.846[ln(hardness)] +2.255*0.998	e(0.8460[ln(hardness)] +0.0584)*0.997		607.2	4,583
Nitrates (as N)	14797558			10,000		

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Selenium	7782492	See Table 4	See Table 4	10		
Silver (Dissolved)	7440224	e(1.72[ln[hardness)]-6.59*0.85 (footnote 1)		50	104.8	64,620
Thallium	7440280	1,400[2]			0.24	0.47
Zinc (Dissolved)	7440666	e(0.8473]ln(hardness)] +0.884)*0.978		5,000		

1 This criterion is based on EPA 304(a) recommendations issued in 1980 that were derived using guidelines that differed from EPA's *1985 Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses* (1985 Guidelines), which update minimum data requirements and derivation procedures. Therefore, the acute criterion (CMC) may not be exceeded at any time and the chronic criterion (CCC) may not be exceeded based on a 24-hour average. However, the acute criterion may be applied using a one hour averaging period not to be exceeded more than once every three years on the average, if the acute value given in Table 2 is divided by 2 to obtain a value that is more comparable to an acute criterion derived using the 1985 Guidelines.
2 This criterion was adopted as a magnitude value only.

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Numerical Criteria to Protect Beneficial Uses and All Subcategories Thereof						
Parameter	**CAS#**	**Fish and Wildlife Propagation**		**Public and Private Water Supply (Raw Water)**	**Fish Consumption (+Other Organisms and Water)[3]**	**Fish Consumption (+Other Organisms)[3]**
		Acute	**Chronic**			
Organic		**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**
1-1-1-Trichloroethane	71556				3,094.0	173,100.0
1,1,2,2,-Tetrachloroethane	**79345**				**2.0**	**30**
1,1,2-Trichloroethane	**79005**				**5.5**	**89**
2-4-5-TP Silvex	93721			10	100	400
2-4-6-TNT		450.0[2]				
2-4-D	94757			100		
2,4-Dinitrotoluene	**121142**				**0.49**	**17**
2-Chloronaphthalene	**91587**				**800**	**1,000**
Acrolein	107028	3	3		6.0	9.0
Acrylonitrile	107131	7,550.0[2]			0.51	2.5
Aldrin	309002	3.0[1]			0.00049	0.00050
Alpha-Endosulfan	**959988**	**0.22[1]**	**0.056[1]**		**20**	**30**
Alpha-Hexachlorocyclohexane	**319846**				**0.0036**	**0.0039**
Benzene	71432		2,200.0[2]		22	510
Benzidine	92875			1		
Benzo(a)pyrene	**50328**				**0.0012**	**0.0013**
Benzo(b)fluoranthene	**205992**				**0.012**	**0.013**
Benzo(k)fluoranthene	**207089**				**0.12**	**0.13**
Beta-Endosulfan	**33213659**	**0.22[1]**	**0.056[1]**		**20**	**40**
Beta-Hexachlorocyclohexane	**319857**				**0.08**	**0.14**
Bis(2-chloro-1methylethyl) Ether	**108601**				**200**	**4,000**
Bis(2-chloroethyl) Ether	**111444**				**0.3**	**22**
Bis(chloromethyl)ether	**542881**				**0.0015**	**0.17**
Bromoform	**75252**				**70**	**1,200**
Carbaryl	**63252**	**2.1**	**2.1**			

Numerical Criteria to Protect Beneficial Uses and All Subcategories Thereof						
Parameter	**CAS#**	**Fish and Wildlife Propagation**		**Public and Private Water Supply (Raw Water)**	**Fish Consumption (+Other Organisms and Water)[3]**	**Fish Consumption (+Other Organisms)[3]**
		Acute	**Chronic**			
Organic		**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**
Carbon Tetrachloride	56235				2.3	16
Chlordane	57749	2.4[1]	0.17[1]		0.0080	0.0081
Chlorobenzene	**108907**				**100**	**800**
Chloroform	67663				56.69	4,708.0
Chlorpyrifos (Dursban)	2921882	0.083	0.041			
Chrysene	**218019**				**1.2**	**1.3**
4,4'-DDD	72548				0.0031	0.0031
4,4' -DDE	**72559**				**0.00018**	**0.00018**
4,4'-DDT	50293	1.1[1]	0.001[1]		0.0022	0.0022
Demeton	8065483		0.1			
Detergents (total)				200		
Diazinon	333415	0.17				
Dibenzo(a,h)anthracene	**53703**				**0.0012**	**0.0013**
Dichlorobromomethane	75274				5.5	170
Dieldrin	60571	0.24	0.056		0.00052	0.00054
Dinitrophenols	**25550587**				**10**	**1,000**
Dioxin (TCDD)	1746016				0.00000005	0.000000051
Endosulfan		0.22[1]	0.056[1]			
Endosulfan Sulfate	**1031078**				**20**	**40**
Endrin	72208	0.086	0.036	0.2	0.059	0.06
Endrin Aldehyde	**7421934**				**1**	**1**
Ethylbenzene	100414				530	2,100
Fluoranthene	206440				20	20
Guthion	86500		0.01			
gamma BHC (Lindane)	58899	0.95		4	0.98	1.8
Heptachlor	76448	0.52[1]	0.0038[1]		0.00079	0.00079

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Numerical Criteria to Protect Beneficial Uses and All Subcategories Thereof						
Parameter	**CAS#**	**Fish and Wildlife Propagation**		**Public and Private Water Supply (Raw Water)**	**Fish Consumption (+Other Organisms and Water)[3]**	**Fish Consumption (+Other Organisms)[3]**
		Acute	**Chronic**			
Organic		**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**
Heptachlor Epoxide	**1024573**	**0.52[1]**	**0.0038[1]**		**0.00032**	**0.00032**
Hexachlorobenzene	118741				0.0028	0.0029
Hexachlorobutadiene	**87683**				**0.1**	**0.1**
Hexachlorocyclohexane (HCH) - Technical	**608731**				**0.066**	**0.10**
Indeno(1,2,3-cd)pyrene	**193395**				**0.012**	**0.013**
Malathion	121755		0.10			
Methoxychlor	72435		0.03	100		
Methylene blue active substances				500		
Mirex	2385855		0.001			
Nitrosodibutylamine	**924163**				**0.063**	**2.2**
Nitrosopyrrolidine	**930552**				**0.16**	**340**
Nonylphenol	25154523	28	6.6			
Parathion	56382	0.065	0.013			
PCB			0.044		0.00064	0.00064
PCE (Tetrachloroethylene)	127184	5,280.0[2]			6.9	33
Pentachlorobenzene	**608935**				**0.1**	**0.1**
Pentachlorophenol	87865	e[1.005(pH)-4.869]	e[1.005(pH)-5.134]		2.7	30
Perchlorate	**7601-90-3**	**6,600[2]**	**1,800[2]**		**~~9~~ 5**	
Phenol	108952				10,000	860,000
Phthalate esters				3		
Bis(2-ethylhexyl) phthalate (BEHP)	117817				12	22
Butylbenzyl phthalate	85687			150	1,500	1,900
Diethyl phthalate	84662				17,000	44,000
Dimethyl phthalate	131113				270,000	1,100,000

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Numerical Criteria to Protect Beneficial Uses and All Subcategories Thereof						
Parameter	**CAS#**	**Fish and Wildlife Propagation**		**Public and Private Water Supply (Raw Water)**	**Fish Consumption (+Other Organisms and Water)[3]**	**Fish Consumption (+Other Organisms)[3]**
		Acute	**Chronic**			
Organic		**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**
Di-*n*-Butyl phthalate	84742				2,000	4,500
RDX	121824	2,591.5[2]				
Toluene	108883		875.0[2]		1,300	15,000
Toxaphene	8001352	0.78	0.0002	5		
Tributyltin (TBT)		**0.46**	**0.072**			

1 This criterion is based on EPA 304(a) recommendations issued in 1980 that were derived using guidelines that differed from EPA's *1985 Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses* (1985 Guidelines), which update minimum data requirements and derivation procedures. Therefore, the acute criterion (CMC) may not be exceeded at any time and the chronic criterion (CCC) may not be exceeded based on a 24-hour average. However, the acute criterion may be applied using a one hour averaging period not to be exceeded more than once every three years on average, if the acute value given in Table 2 is divided by 2 to obtain a value that is more comparable to an acute criterion derived using the 1985 Guidelines.

2 This criterion was adopted as a magnitude value only.

3 A carcinogenicity value of 10^{-5} was used where applicable.

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TABLE 3

Conversion Factors for Total to Dissolved Fractions
[H=hardness as $CaCO_3$ (mg/L)]

METAL	CAS#	ACUTE	CHRONIC
Arsenic	7440382	1.000	1.000
Cadmium	7440439	1.136672 – 0.041838 lnH	1.101672 – 0.041838 lnH
Copper	7440508	0.960	0.960
Chromium III	16065831	0.316	0.860
Chromium VI	18540299	0.982	0.962
Lead	7439921	1.46203 – 0.145712lnH	1.46203 – 0.145712lnH
Mercury	7439976	0.850	N/A
Nickel	7440020	0.998	0.997
Silver	7440224	0.850	N/A
Selenium	7782492	NA	1.00
Zinc	7440666	0.978	0.986

Table 4

Surface Water Quality Aquatic Life Criterion for Selenium

Media Type	Fish Tissue[1]	Water Column[3]	
Criterion Element	Egg/Ovary or Fish Whole-body or Muscle[2]	Monthly Average Exposure	Intermittent Exposure[4]
Magnitude	15.1 mg/kg dry weight (egg/ovary) or 8.5 mg/kg dry weight whole-body or 11.3 mg/kg dry weight muscle (skinless, boneless fillet)	1.5 µg/L in lakes aquatic systems 3.1 µg/L in rivers/streams aquatic systems	$WQC_{int} = \frac{WQC_{30-day} - C_{bkgrnd}(1 - f_{int})}{f_{int}}$
Duration	Instantaneous measurement[5]	30 days	Number of days/month with an elevated concentration
Frequency	Not to be exceeded	Not more than once in three years on average	Not more than once in three years on average

1. Fish tissue elements are expressed as steady-state.
2. Egg/ovary supersedes any whole-body, muscle, or water column element if fish egg/ovary concentration data are available. Fish whole-body or muscle tissue supersedes water column element when both fish tissue and water concentrations are measured, except as noted in footnote 3 below.
3. Water column values are based on dissolved total selenium (TDSe) in water and are derived from fish tissue values via bioaccumulation modeling. When selenium inputs are increasing, water column values are the applicable criterion element in the absence of steady-state condition fish tissue data.
4. Where $WQC_{30\text{-}day}$ is the water column monthly element for either lake or river/stream waters; C_{bkgrnd} is the average background selenium concentration; and f_{int} is the fraction of any 30-day period during which elevated selenium concentrations occur, with f_{int} assigned a value ≥ 0.033 (corresponding to 1 day).
5. Fish tissue data provide instantaneous point measurements that reflect integrative accumulation of selenium over time and space in fish population(s) at a given site.

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APPENDIX H. BENEFICIAL USE DESIGNATIONS FOR CERTAIN LIMITED AREAS OF GROUNDWATER

A. Within Oklahoma there are some bodies or areas of groundwater the quality of which is not suitable for the beneficial uses that are designated on a default basis in OAC 252:730-7-3(b). In most cases this unsuitability is caused by natural conditions or irreversible human-induced impacts such as pollution. Consequently, it is necessary to provide for beneficial use designations for these limited areas of groundwater which are more accurate and appropriate than the default designations in OAC 252:730-7-3(b). The absence of an area of a groundwater formation from this appendix does not indicate that area is free from contamination or has quality suitable for any beneficial use.

B. The groundwater formations or portions thereof that require special designations are identified in the tables that follow in this Appendix. The groundwater formations or units are identified by their name (e.g., "Garber Wellington") and legal description (e.g., "2-4, 9-11, 13-16 T2N R20W " denoting section(s), Township and Range). The area identified may be localized and not necessarily inclusive of the entire hydrogeologic basin or groundwater formation. The tables also set forth a general description of the physical location above the groundwater formation or unit for use as a general point of reference. The tables also set forth columns to show the groundwater classifications and beneficial uses which are designated for each identified area of groundwater. A "Depth Zone" also is indicated, to which the beneficial uses and "Remarks" listed in following columns are applicable.

C. Designations of beneficial uses for an identified groundwater formation or portion thereof are reflected in the tables by the presence of a dot ("•") in the columns to the right of the groundwater name and location. An empty space in a column means that column's beneficial use or subcategory thereof is not designated for that groundwater. Groundwater not identified in this Appendix is subject to the default designations detailed in OAC 252:730-7-3.

D. The state environmental agency that requested the groundwater formation or unit to be so identified and designated with certain beneficial uses and/or limitations is shown in the column headed "Agency". A specific division within that agency may also be listed. Questions relating to the quality of the groundwater found in any particular formation or unit, or concerns related to any comment in the "Remarks" column, should be addressed to the agency denoted in the "Agency" column.

E. The presence of any comment in the "Remarks" column denotes special circumstances which are applicable only to the groundwater formation or unit so identified. These comments may refer to certain constituents of the groundwater at that location, special well construction requirements, or other information deemed pertinent by the agency that requested this listing.

F. Definitions
"ACOG" means Association of Central Oklahoma Governments
"Corp Comm" means Oklahoma Corporation Commission
"DEQ" means Oklahoma Department of Environmental Quality
"SEP" means Supplemental Environmental Projects
"RCRA" means Resource Conservation and Recovery Act

SUBP

"VCP" means Voluntary Cleanup Program

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Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Garber Wellington (Thunderhead Hills)	W 1/2 of W 1/2 of Section 20, T14N, R2W~~T14 N, R 2 W,~~ IM; W 1/2 of NW 1/4 and NW 1/4 of SW 1/4 of Section 29, T14N, R2W ~~T14N, R2W,~~ IM	Along and ¼ mile east of Coltrane from Danforth Rd to Sherrywood Rd, Edmond, Oklahoma County	85-200 ft deep; ¼ mile wide by at least 1 ¾ mile long	2		●		Corp Comm, Oil and Gas Div & ACOG	Brine plume moving south about 80 feet/year. Case/cement new wells through upper affected zone.
Garber Wellington (Double Eagle / 4th St superfund site)	SE 1/4 of Section 35, T12N, R3W ~~T 12 N, R 3 W,~~ IM and SW 1/4 of Section 36, T12N, R3W ~~T 12 N, R 3 W,~~ IM	Oklahoma County	0-160	2		●	●	DEQ	Brine, chlorinated solvents and hydrocarbons. Special well construction required.

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Boone (Tar Creek superfund site)	Sections 13, 14, 23, 24, 25, 26, 35, and 36 of T29N, R22R~~T 29 N, R 22 E,~~ IM. Sections 13-36 of T29N, R23E~~T 29 N, R 23 E,~~ IM. Sections 17-19, W 1/2 of Section 20, W 1/2 of Section 29, and Sections 30-32 of T29N, R24E, IM. Section 1, E 1/2 of Section 2, E 1/2 of Section 11, Section 12, N 1/2 of Section 13, NE 1/4 of Section 14 all in T28N, R22E~~T 28 N, R 22 E,~~ IM. Section 1, W 1/2 of Section 5, Section 6, Section 7, W 1/2 of Section 8, NW 1/4 of Section 17, N 1/2 of Section 18 all in T28N, R23E~~T 28 N, R 23 E,~~ IM, W 1/2	Ottawa County	0-350 ~~0 – 350 ft~~	2	●	●	●	DEQ	Toxic metals, special well construction required

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Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
	of Section 5, Section 6 all in T28N, R24E~~T 28 N, R 24 E,~~ IM.								
Quaternary Terrace (Kingfisher Wellhead Protection Area)	Section 33, SW 1/4 of Section 36 in T18N, R7W~~T 18 N, R 7 W,~~ IM. SW 1/4 of Section 1, NW 1/4 and S 1/2 of Section 2, N 1/2 of Section 3, N 1/2 of Section 4, NE 1/4 of Section 11, and Section 12 all in T17N, R7W~~T 17 N, R 7 W,~~ IM	Kingfisher County	0-100 ~~0 – 100 ft~~	1	●	●	●	DEQ	Zone 1 Wellhead Protection Area, no pollution sources

SUPP

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Southwestern Oklahoma (Altus AFB area)	Sections 34-36 in T3N, R20W~~T 3 N, R 20 W,~~ IM. Sections 1-3, Sections 10-15, and Sections 22-24 all in T2N, R20W~~T 2 N, R 20 W,~~ IM	North of US 62, eastern edge of City of Altus and entire AFB, Jackson County	0-60 ~~0 - 60 ft~~	3		●	●	OWRB	TCE and by-products, remediation activity in-place
Ogallala (Dobson Ranch)	One square acre within NW 1/4 of Section 17, T11N, R26W, IM	State Highway 152, approximately four miles west of Sweetwater, OK, Roger Mills County	0-20 ~~0 - 20 ft~~	2	●	●	●	DEQ - VCP	Restriction on groundwater use within the 1 square mile recorded on a deed notice due to Benzene contamination. See DEQ or county clerk for location details

SUP

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Quaternary Terrace Deposits - (Cornerstone Shopping Center)	SE 1/4 of Section 16, T12N, R4W~~T 12 N, R 4 W,~~ IM, Approx six (6) acres of WEST PARK ADDITION to Oklahoma County, Oklahoma.	3900 N. MacArthur Avenue, Oklahoma City, Oklahoma County, Oklahoma	0-22 ~~0 – 22 ft~~	2	●	●	●	DEQ - VCP	Tetrachloro-ethene - Deed restriction on file. See DEQ or county clerk for location details.

SUPP

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Alluvium & Terrace Deposits - (OKC Urban Renewal Phase I)	21.6 acres of the NW 1/4 of Section 3, T11N, R3W T 11 N, R 3 W, IM	An area bounded to the South of Reno Avenue, East of the BNSF railroad tracks, North of Interstate 40/or its replacement street and west of a line extended from Stiles Avenue to Interstate 40/or its replacement street in Oklahoma City, Oklahoma County, Oklahoma.	0-30 ~~0 – 30 ft~~	2	•	•	•	DEQ - VCP	Deed restriction on groundwater use. See DEQ or county clerk for location details.

SUP

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Coffeyville Formation (Compass Industries Landfill Superfund site)	SE 1/4 of NE 1/4 and NE 1/4 of SE 1/4 of Section 13, T19N, R11E~~T 19 N, R 11 E,~~ IM, and S 1/2 of NW 1/4 and N 1/2 of SW 1/4 of Section 18, T19N, R12E~~T 19 N, R 12 E,~~ IM	7600 W 26th St, Tulsa, Tulsa County, Oklahoma	0-105 ~~0 - 105 ft~~	2	●	●	●	DEQ-Superfund	Deed restriction on groundwater use for any purpose. See DEQ or county clerk for location details.

SUPP

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Weatherford Member of the Cloud Chief Formation & Rush Springs Sandstone Formation (Oklahoma Refining Company Superfund site)	S 1/2 of SW 1/4 of Section 18, T5N, R9W~~T 5 N, R 9 W,~~ IM and NW 1/4 of Section 19, T5N, R9W ~~T 5 N, R 9 W,~~ IM, and NW 1/4 of Section 19, T5N, R9W~~T 5 N, R 9 W,~~ IM, and SE 1/4 of SE 1/4 of Section 13, T5N, R10W~~T 5 N, R 10 W,~~ IM and E 1/2 of NE 1/4 of NE 1/4 of Section 24, T5N, R10W~~T 5 N, R 10 W,~~ IM	South Baskett St, Cyril, Caddo County, Oklahoma	0-145~~0 145 ft~~	2	●	●	●	DEQ - Superfund	Deed restriction on disturbing landfill caps and on groundwater use for any purpose due to hydrocarbon contamination. See DEQ or county clerk for location details.

SUP

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
North Canadian Alluvium (Tenth Street Superfund site)	2.931 acres in the NW 1/4 of Section 31, T12N, R2W~~T 12 N, R 2 W,~~ IM	3200 NE 10th St Oklahoma City, Oklahoma County, Oklahoma	0-20 ~~0 - 20 ft~~		●	●	●	DEQ - Superfund	Deed restriction on drilling of any type of wells through the landfill cap or into the landfill. See DEQ or county clerk for location details.
North Canadian Alluvium and Garber (Mosley Road Landfill Superfund site)	71.765 acres in NE 1/4 of Section 21, T12N, R2W~~T 12 N, R 2 W,~~ IM	Mosely Road Between NE 23 & NE 36 Oklahoma City, Oklahoma County, Oklahoma	0-150 ~~0 - 150 ft~~	2	●	●	●	DEQ - Superfund	Restriction on groundwater use for any purpose. See DEQ or county clerk for location details

SUP

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Tallant Formation (Blackstar Performance)	SE 1/4 of Section 25, T20N, R8E~~T 20 N, R 8 E,~~ IM and NE 1/4 of Section 25, T20N, R8E~~T 20 N, R 8 E,~~ IM	East of Highway OK-48, about 4 miles north of Highway OK-51 intersection, in Terlton, Pawnee County, Oklahoma	0-30 ~~0 - 30 ft~~; depth of contamination not yet defined.	2	●	●	●	DEQ - RCRA	1,1,1-Tricholroethane and 1,1-Dichoroethene Depth of contamination unknown, private wells to 200 feet are impacted. See DEQ for additional details.
N. Canadian Terrace Deposits underlain by Hennesey Group (OKC Solvent Plume)	Approximately 80 acres in NE 1/4 of Section 27, T12N, R4W~~T 12 N, R 4 W,~~ IM and NW 1/4 of Section 27, T12N, R4W~~T 12 N, R 4 W,~~ IM	Between NW 23rd and NW 19th and N Meridian and Ann Arbor, Oklahoma City, Oklahoma County, Oklahoma	0-30~~0 - 30 ft~~; depth of contamination not yet defined.	2	●	●	●	DEQ - SEP	Tetrcholor-ethylene (max 1,200 ppb) and Thrichhloro-ethylene (max 35 ppb). Plume not delineated; private wells impacted. See DEQ for details.

SEP

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Garber-Wellington (Eagle Industries)	Approximately 6 acres in SE 1/4 of Section 7, T11N, R1W~~T 11 N, R 1 W,~~ IM	North of SE 29th & West of Westminister Road, Midwest City, Oklahoma County, Oklahoma	0-500~~ – 50 ft~~; depth of contamination not yet defined.	2	●	●	●	DEQ - RCRA	Trichloro-ethylene (max 2,280 ppb). Plume not delineated. See DEQ for details.
East Central Oklahoma bedrock	SE 1/4 of SE 1/4 of SE 1/4 of Section 5, T7N, R9E~~T 7 N, R 9 E,~~ IM	Hughes County	200~~ ft~~; Aerial extent unknown	2	●	●	●	Corp. Comm. O & G Division	Brine affecting aquifer. Disposal well offsetting old (now plugged) oil well was the most likely conduit.
Garber-Wellington Sandstone Formation	NW 1/4 of SE 1/4 of Section 1, T9N, R2E~~T 9 N, R 2 E,~~ IM	Pottawatomie County	160-200~~16 0 – 200 ft~~; 20 acres	2	●	●	●	Corp. Comm. O & G Division	Brine affecting aquifer. Now plugged disposal well was the most likely source.

SUP

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Rush Springs Sandstone, Marlow Formation. (Cyril Plume)	Portions of Sections 1 and 12 in T5N, R10W~~T 5 N, R 10 W,~~ IM and Sections 6 and 7 in T5N, R9W~~T 5 N, R 9 W,~~ IM and Section 36, T6N, R10W, ~~T 6 N, R 10 W~~IM and Section 31, T6N, R9W~~T 6 N, R 9 W,~~ IM	2-3 miles north of Cyril, Caddo County.	Up to 450 ft deep; some saline ground-water discharge into Little Washita River tributaries. ~960 acre plume	2	●	●	●	Corp Comm, Oil and Gas Div	~960 acre plume moving S-SW @ 90'/year; 30 year monitoring program started in 1999. Cyril municipal wells affected were abandoned.
Blaine (Drummond Flats)	NE 1/4 of Section 33, T22N, R8W~~T 22 N, R 8 W,~~ IM	From NE corner of Drummond 4 miles north, 1 west, 1 south and 3/8 west. Near Turkey creek.	20-50~~20 – 50~~ ft in affected wells.	2	●	●	●	Corp Comm, Oil and Gas Div	Drummond Flats, water has historical contamination.

SUP

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Terrace Deposits (Drummond Flats)	SW 1/4 of Section 12, T21N, R9W~~R 21 N, R 9 W,~~ IM	From Ames, 1/2 mile east, 4 miles north, 3 3/4 east, north into site.	About 40 ft in affected wells.	2	●	●	●	Corp Comm, Oil and Gas Div	Drummond Flats, water has historical contamination.
Arkansas River Alluvium (Sand Springs Petrochemical Superfund Site)	W 1/2 of NW 1/4 of Section 13, T19N, R11E, ~~T 19 N, R 11 E~~IM and NE 1/4 of Section 14, T19N, R11E ~~T 19 N, R 11 E,~~ IM	Tulsa County	0-37 ~~0 37 ft~~	2		●	●	DEQ Land Protection Division	Metals, VOC, Special Well Construction Required.
Vamoosa, Tallant, and Barnsdall Formations (Kwikset)	Part of SE 1/4 of NE 1/4 Section 31, T16N, R9E, IM	1201 South Maple Street, Bristow, Creek County	0-60	2	●	●	●	DEQ, Land Protection Division	Property has restrictions on groundwater and land use. Groundwater is contaminated with VOCs. See DEQ-Land Protection Division or county clerk for details.

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Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Savanna and McAlester Formations and Arkansas River Alluvium and Terrace Deposits (Fansteel Metals, a/k/a FMRI)	Part E 1/2 of SE 1/4 Section 17, T15N, R19E, IM; SE 1/4 of SE 1/4 of NE 1/4 Section 17, T15N, R19E, IM; part of W 1/2 of SW 1/4 Section 16, T15N, R19E, IM; S 1/2 of SW 1/4 of NW 1/4 Section 16, T15N, R19E, IM	10 Tantalum Place, Muskogee, Muskogee County	0-40	2	●	●	●	DEQ, Land Protection Division	Trichloroethylene contamination above USEPA MCL of 5 µg/L in Section 17; Uranium contamination above USEPA MCL of 30 µg/L in Section 16. Property in Section 16 and part of S 1/2 of SE 1/4 of SE 1/4 of Section 17 is also under Nuclear Regulatory Commission License SMB-911.
Garber-Wellington and Cimarron River Alluvium (Cimarron Environmental Trust Site, formerly KerrMcGee)	Part of N 1/2 Section 12, T16N R4W, IM; Part of S 1/2 of S 1/2 Section 1, T16N, R4W, IM	100 N US Hwy 74, Guthrie, Logan County	0-80	2	●	●	●	DEQ, Land Protection Division	Uranium, Nitrates and Fluoride contamination are present above USEPA MCLs of 30 ~~micrograms~~ µg/L ~~per liter~~ (Uranium), 10 ~~milligrams~~ mg/L ~~per liter~~ (Nitrate as N) and 4 ~~milligrams~~ mg/L ~~per liter~~ (Fluoride). Site is subject to Nuclear Regulatory Commission License SNM-0928.

SUPP

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Vamoosa-Ada Aquifer and overlying Unconsolidated Materials (Cleveland, KerrMcGee Refinery)	NE 1/4 Section 18, T21N, R8E, IM; E 1/2 of E 1/2 of E 1/2 of NW 1/4 Section 18, T21N, R8E, IM	Southwest of Cleveland, Pawnee County	0-600 ~~-60~~	2	●	●	●	DEQ, Land Protection Division	Benzene, Toluene, Xylenes, Benzo(a) Pyrene, Arsenic, and Lead are present above USEPA MCLs; Light Non-Aqueous-Phase Liquids (LNAPL) present on-site
Terrace Deposits, Upper and Lower Vanoss (Cushing KerrMcGee Refinery)	Part of S 1/2 Section 22, T18N, R5E, IM; NE 1/4 Section 27, T18N, R5E, IM; SW 1/4 Section 23, T18N, R5E, IM	North of Cushing, Payne County	0-80	2	●	●	●	DEQ, Land Protection Division	No use of groundwater other than for monitoring purposes. Groundwater contamination includes hydrocarbons, sulfate, acid, and metals. See DEQ-Land Protection Division or county clerk for details.
Garber Wellington (Duncan Refinery)	Part of Section 32, T1S, R7W, IM; N 1/2 Section 5, T2S, R7W, IM; SW 1/4 of NW 1/4 of NW 1/4 Section 4, T2S, R7W, IM	South of Duncan, Stephens County	14-40	2	●	●	●	DEQ, Land Protection Division	No use of groundwater other than for monitoring purposes. Groundwater contamination includes: Light Non-Aqueous-Phase Liquids (LNAPL), VOCs, SVOCs, Metals. See DEQ-Land Protection Division or county clerk for details.

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Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Enid Isolated Terrace Aquifer (Former Champlin Refinery)	Sections 3 and 4, T22N, R6W, IM; S 1/2 of SE 1/4 Section 33, T23N, R6W, IM	2529 E. Willow Road, Enid, OK, Garfield County	0-55	2	●	●	●	DEQ, Land Protection Division	Benzene contamination above USEPA MCL of 5 µg/L ~~micrograms per liter~~
Alluvium and Terrace Deposits (Former Okmulgee Refinery)	Parts of SE 1/4 Section 31, T14N, R13E, IM; W 1/2 of NE 1/4 Section 6, T13N, R13E, IM; E 1/2 of E1/2 of NW 1/4 Section 6, T13N, R13E, IM	North of Okmulgee, Okmulgee County	0-40	2	●	●	●	DEQ, Land Protection Division	No use of groundwater other than for monitoring purposes and no drilling of groundwater well for domestic consumption, irrigation, or industrial purposes. See DEQ-Land Protection Division or county clerk for details.
Garber Sandstone - Central Oklahoma Aquifer (Boulevard Market Cleaners, Weingarten Nostat, Inc)	Parts of S 1/2, S 1/2, SE 1/4 Section 35, T12N, R2W, IM	101 N. Douglas Voulevard, Midwest City, Oklahoma County	0-65 ~~feet~~	2	●	●	●	DEQ, Land Protection Division	Groundwater contamination includes VOCs. See DEQ-Land Protection Division for details.

SUPP

Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Poteau River Alluvium and Terrace Deposits (Former Rab Valley Wood Preserving Site)	Parts of SW 1/4 Section 15, T8N, R25E, IM and E 1/2 of NE 1/4 of SE 1/4 Section 16, T8N, R25E, IM	Tecumseh St., Panama, OK 74951	0–40	2	●	●	●	DEQ, Land Protection Division	No on-site groundwater use except for monitoring purposes due to NAPL, VOC, and SVOC contamination. See DEQ or county clerk for details.
Vanoss Group (Hudson Refinery Superfund site)	NE 1/4 of NW 1/4 of Section 4, T17N, R5E, IM and SW 1/4 of Section 33, T18N, R5E, IM	Payne County	18-168	2	●	●	●	DEQ, Land Protection Division	Deed restriction was filed with county prohibiting ground water use for any purpose due to hydrocarbon contamination. See DEQ Land Protection Division (405-702-5100) or county clerk for location details.

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Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
North-Central Oklahoma (Blackwell Zinc Company ("BZC") site)	Portions of Sections 14, 15, 16, 21. 22. 23.26. 27 and 28 of T27N, R1W, IM. Generally located to the north and south between 500 ft. north of Doolin Avenue and Adams Avenue and to the east and west between 21st Street and 200 ft. east of main Street, City of Blackwell.	Kay County	0-40	2	●	●	●	DEQ, Land Protection Division	City Ordinance No. 2801 prohibiting installation of ground water wells within the ground water protective area due to cadmium and zinc contamination. Contact DEQ Land Protection Division (405-702-5100) or city for location details.
North-Central Oklahoma (Former Farmland Feedmill site)	36.26 acres in SW 1/4. Section 19, T22N, R6W, IM	3013 South Van Buren Street, Enid, Garfield County, Oklahoma	0-30; depth of contamination not defined	2	●	●	●	DEQ, Water Quality Division	Restriction on groundwater use due to nitrate contamination. Nitrate concentrations exceed drinking water standards. Drinking water wells should not be constructed in this area. See DEQ Water Quality Division for location details.

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Groundwater formation name (Site name)	Location	Address	Depth Zone (upper-lower limit) feet (ft)	Class* (1-4)	Water Supply	Ag	M&I	Agency	Remarks
Atoka and Overlying Alluvium (Sequoyah Fuels Corporation)	Section 21, T12N, R21E, IM	Sequoyah County	0-100	2	●	●	●	DEQ, Land Protection Division	Uranium, Nitrates, and Arsenic contamination are present above USEPA MCLs of 30 µg/L (Uranium), 10 mg/L (Nitrate as N) and 10 µg/L (Arsenic). Site is subject to Nuclear Regulatory Commission License SUB-1010
Duncan Sandstone (Osage Road Site Plume)	Portions of Sections 8, 9, 16, and 17 in T1N, R7W, IM as follows: 8-1N-7W, SW/4 SW/4; 9-1N-7W, NE/4 NE/4; 17-1N-7W, NW; 16-1N-7W	605 West Osage Road, Duncan, Oklahoma, Stephens County	25 up to 200	2	●	●	●	DEQ, Land Protection Division	Approximately 275-acre perchlorate groundwater plume. Partial coverage of deed restrictions on groundwater use. Groundwater remediation is in progress and public water connection is available. Drinking water wells should not be constructed in this area. Contact DEQ Land Protection Division for location details (405-702-5100).

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Boone and Roubidoux Aquifers (Tar Creek Superfund Site)	Sections 13, 14, 23, 24, 25, 26, 35, and 36 of T29N, R22E, IM. Sections 13-36 of T29N, R23E, IM. Sections 17-19, W 1/2 of Section 20, W 1/2 of Section 29, and Sections 30-32 of T29N, R24E, IM. Section 1, E 1/2 of Section 2, E 1/2 of Section 11, Section 12, N 1/2 of Section 13, NE 1/4 of Section 14 all in T28N, R22E, IM. Section 1, W 1/2 of Section 5, Section 6, Section 7, W 1/2 of Section 8, NW 1/4 of Section 17, N 1/2 of Section 18 all in T28N, R23E, IM, W 1/2 of Section 5, Section 6 all in T28N, R24E, IM.	Ottawa County	0-350 (Boone) & 500-1500 (Roubidoux Aquifer)	2	●	●	●	DEQ, Land Protection Division	Boone Aquifer is impacted by former mining activities and may contain toxic metals. For Boone wells, groundwater testing is recommended and treatment is required if lead or arsenic are ≥ 10 µg/L, or if cadmium is ≥ 5 µg/L. For Roubidoux wells, special protective well construction is required to entirely case off the Boone Aquifer. Follow OWRB (785:35-7-1) and DEQ (252:626-7-4) construction standards. See Special Well Construction Fact Sheet on DEQ's Tar Creek webpage for recommendations.

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APPENDIX I. CRITERIA FOR GROUNDWATER PROTECTION

Table 1. Numerical criteria to protect the Public Water Supply and Domestic Untreated Water Supply beneficial uses.

Parameter	CAS #	Criteria (µg/L, unless otherwise noted)
Nickel	7440020	140
Acrolein	107028	3.5
Acrylonitrile	107131	0.65
Aldrin	309002	0.021
Chloroform	67663	70
4,4"-DDD	72548	1.5
4,4’-DDT	50293	1
Dichlorobromomethane	75274	5.6
Dieldrin	60571	0.022
Perchlorate	7601-90-3	4.9
Phenol	108952	4,200
Bis(2-ethylhexyl)phthalate (BEHP)	117817	25
Butylbenzyl phthalate	85687	1,400
Diethyl Phthalate	84662	5,600
Dimethyl Phthalate	131113	70,000
Di-n-Butyl Phthalate	84742	700

Table 2. Secondary drinking water contaminants and associated criteria as listed in 40 CFR 143.3.

Parameter	Criteria
Aluminum	0.05 to 0.2 mg/L ~~mg/l~~
Chloride	250 mg/L ~~mg/l~~
Color	15 color units
Copper	1.0 mg/L ~~mg/l~~
Corrosivity	Non-corrosive
Fluoride	2.0 mg/L ~~mg/l~~
Foaming Agents	0.5 mg/L ~~mg/l~~
Iron	0.3 mg/L ~~mg/l~~
Manganese	0.05 mg/L ~~mg/l~~
Odor	3 TON (threshold odor number)
pH	6.5 – 8.5
Silver	0.1 mg/L ~~mg/l~~
Sulfate	250 mg/L ~~mg/l~~
Total Dissolved Solids (TDS)	500 mg/L ~~mg/l~~
Zinc	5.0 mg/L ~~mg/l~~

TITLE 252. DEPARTMENT OF ENVIRONMENTAL QUALITY
CHAPTER 730. OKLAHOMA'S WATER QUALITY STANDARDS

EXECUTIVE SUMMARY:

The gist of this rule and the underlying reason for the rulemaking is to comply with the Water Quality Standards Triennial Review and includes the following updates: add, remove and/or modify certain definitions; update Primary Body Contact Recreation by replacing confidence intervals with geometric mean and statistical threshold values, applicable to both E. coli and Enterococci; updating Secondary Body Contact Recreation to add numeric criteria for E. coli and enterococci based on EPA's water ingestion formula; adding language allowing the use of the copper biotic ligand model for development of copper site-specific criteria; adding language allowing for the potential use of multiple regression model for the creation of copper site-specific criteria; requiring the use of a fish tissue study for selenium site-specific criteria; removal of site-specific metals criteria that were not approved by EPA; removal of segment averages that were not approved by EPA; recalculation of certain criteria and the addition of Aquatic Life and Human Health criteria values based on EPA's recommended values; and, including an updated version of Appendix H that was missing in the most recent version of Chapter 730.

DIFFERENCE FROM ANALOGOUS FEDERAL RULES:

There are no differences from analogous federal rules.

ENVIRONMENTAL BENEFIT STATEMENT:

This rulemaking maintains the current environmental benefits as provided by law. These rules are not more stringent than corresponding federal rules.

SUMMARY OF COMMENTS AND RESPONSES:

City of Tulsa Water and Sewer Department: Comment letter received October 15, 2026
City of Tulsa WSD Comment 1:
Definitions - "Bioaccumulation Factor": The proposed added definition for "Bioaccumulation Factor" does not agree with EPA referenced definition for Bioaccumulation Factor and instead appears to be the definition for Bioconcentration Factor (BCF). City of Tulsa WSD suggests that DEQ reevaluate this definition…"

DEQ response to City of Tulsa WSD Comment 1: *The definition for bioconcentration factor has been removed since it is not referenced elsewhere in this chapter. The definition for bioaccumulation factor in both Chapter 730 and 740 has been changed to "the ratio (in liters per kilogram of tissue) of the concentration of a chemical in the tissue of an aquatic organism to its concentration in water, in situations where both the organism and its food are exposed and the ratio does not change substantially over time", which is the definition cited by EPA in their*

"Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health" (2000).

City of Tulsa WSD Comment 2:
252:730-5-4. Applicability of narrative and numerical criteria – The City of Tulsa WSD suggests that DEQ add a definition of the acronym "cfs" within the 252:730-1-2. Definitions.

DEQ response to* City of Tulsa WSD *Comment 2: *The definition for "cfs" has been added to Chapter 730 based on this comment.*

City of Tulsa WSD Comment 3:
252:730-5-12. Fish and wildlife propagation: 252:730-5-12(f)(5)(B) - The proposed acronym of "IBWs" in incorrect. The correct acronym is "IWBs".

DEQ response to City of Tulsa WSD Comment 3: *Thank you for your comment. The acronym has been corrected in the final version of Chapter 730.*

City of Tulsa WSD Comment 4:
252:730-5-16. Primary Body Contact Recreation - 252:730-5-16(c)(1) *Escherichia coli* and 252:730-5-16(c)(2) Enterococci: To improve clarity, the City of Tulsa WSD requests that DEQ provide a reverence to the source document(s).

DEQ response to City of Tulsa WSD Comment 4: *The revised Primary Body Contact Recreation criteria were developed from EPA's Recreational Water Quality Criteria (2012). The document may be found on the EPA website at: https://www.epa.gov/sites/default/files/2015-10/documents/rwqc2012.pdf*

City of Tulsa WSD Comment 5:
252:730-5-17. Secondary Body Contact Recreation - The City of Tulsa WSD requests that DEQ provide a reference to the source document(s).

DEQ response to City of Tulsa WSD Comment 5: *The revised Secondary Body Contact Recreation criteria were developed from EPA's "An Approach for Applying EPA's 2012 Recreational Water Quality Criteria Recommendation to Non-primary Contact Exposure Scenarios" (2022) and "Update for Chapter 3 of the Exposure Factors Handbook: Ingestion of Water and Other Select Liquids" (2019). These documents may be found on the EPA website at: https://www.epa.gov/system/files/documents/2022-01/rec-criteria-white-paper-final.pdf and https://www.epa.gov/sites/default/files/2019-02/documents/efh_-_chapter_3_update.pdf*

Quapaw Nation: Comment letter received October 19, 2026
Quapaw Nation Comment 1 - Tar Creek and Habitat Limited Aquatic Community (HLAC)
Habitat Limited Aquatic Community neither supports the Nation's actual or intended uses for Tar Creek or reflects the conditions that were present in Tar Creek before the mining contamination occurred. If Habitat Limited Aquatic Community is adopted as the designated use

for Tar Creek, then it may also become the water quality target for remediation efforts – in which case remediation will fail to actually clean up Tar Creek to pre-contamination conditions.
We urge DEQ to forego the HLAC designation and instead select a designated use that more closely reflects pre-contamination conditions at Tar Creek. If DEQ is unable or unwilling to do so, then it must not advocate that HLAC be used as an ARAR in the Tar Creek remediation process.

DEQ response to Quapaw Nation Comment 1: *The HLAC designated use was assigned to Tar Creek by OWRB in 1985. As DEQ was delegated the responsibility of Oklahoma's Water Quality Standards in 2022, DEQ does not have the historical knowledge of why the HLAC use was assigned to Tar Creek. DEQ will need to conduct a Use Attainability Analysis to re-evaluate this designation for future rulemaking. Remediation water quality targets are based on achieving the goals of the Clean Water Act of fishable and swimmable waters (Warm Water Aquatic Community/Cool Water Aquatic Community and Primary Body Contact Recreation) and not the degraded use of Habitat Limited Aquatic Community. The remediation goals for constituents with human health and aquatic life criteria would be the same as the human health and aquatic life criteria for waterbodies designated Warm Water Aquatic Community or Cool Water Aquatic Community.*

Quapaw Nation Comment 2 - Fish Consumption Rate/Human Health Criteria:
The proposed rules do not include changes showing that DEQ addressed our comments regarding fish consumption rates and human health criteria. We request that DEQ identify the fish consumption rates and exposure assumptions underlying Appendix G. We also request that DEQ explain whether and how it considered tribal populations and other highly exposed populations in its selection of relevant fish consumption rates.

DEQ response to Quapaw Nation Comment 2: *Fish consumption rates for tribal populations and subsistence fishing have not yet been evaluated specifically for Oklahoma by DEQ. The current criteria in Oklahoma's water quality standards are based on EPA's national criteria recommendations. Additional studies will need to be conducted to determine the fish consumption rates for different populations and the fish consumption criteria would need to be adjusted based on those consumption rates. DEQ welcomes collaboration with the Quapaw Nation to incorporate the studies already completed by the Quapaw Nation to achieve these goals.*

Quapaw Nation Comment 3 – Selenium:
DEQ is proposing to rely on fish tissue accumulation of selenium for the updated criteria in the proposed rules. This does appear to be science-based – *however* the selenium fish tissue limits are strictly to protect aquatic life from chronic reproductive toxicity and do not consider the effects on humans resulting from fish consumption.
Selenium is associated with sulfide mineral mining. Although the Nation has insisted that EPA investigate the entire suite of metals, including selenium, as a part of the Tar Creek RI, the concentration of selenium in the environment at Tar Creek is currently unknown. Selenium above certain levels in fish is known to be toxic to humans, depending on consumption rates. Accordingly, the Nation insists, as it has in the past, that DEQ work with our staff to incorporate

appropriate fish consumption rates that are protective of tribal uses into its water quality standards. We urge DEQ to do so here with respect to the proposed rules.

DEQ response to Quapaw Nation Comment 3: *The revised selenium criteria are based on EPA guidance provided in the document "Aquatic Life Ambient Water Criterion for Selenium – Freshwater 2016. EPA's recommended selenium human health criteria for Fish Consumption (plus other organisms) and water is 170 µg/L and for Fish Consumption (plus other organisms) is 4,200 µg/L. Since the recommended water column aquatic life criteria for selenium (1.5 µg/L in lakes, 3.1 µg/L in streams) is much lower than the human health criteria, selenium human health criteria are not included in Oklahoma's water quality standards. These recommendations will be reviewed during studies conducted for the fish consumption rates addressed in #2 above.*

Quapaw Nation Comment 4: Sulfate and Molybdenum Concerns
The proposed rules do not include changes showing that DEQ addressed our comments that nearly all of the background values for sulfate concentrations in the surface waters listed in the Oklahoma WQSs are indicative of acid rock drainage/acid mine drainage. As stated in prior comments, the high values of sulfate indicate that molybdenum must be added to the list of inorganic contaminants in order to protect ruminants from copper deficiency.

DEQ response to Quapaw Nation Comment 4: *DEQ is willing to investigate the potential addition of molybdenum to Oklahoma's WQS. This will require a study to determine reasonable and protective criteria values for livestock.*

Quapaw Nation Comment 5: Site-specific Criteria
Appendix E to Chapter 730 discusses site-specific metals criteria based on local receiving water chemistry. Similar to our comments regarding the HLAC designated use, our position is that human degradation of water quality (such as mining contamination) should not serve as a baseline for site-specific criteria.

DEQ response to Quapaw Nation Comment 5: *Site-specific metals criteria are only developed for facilities with a discharge permit or for entities seeking a discharge permit. The permittee must submit a request to DEQ for the development of site-specific criteria. The permittee also bears the responsibility for the design, completion, and cost of the study. The study cannot commence without approval from DEQ.*
Site-specific criteria must be based on sound scientific rationale and protect the designated beneficial uses of the waterbody. Site-specific criteria are developed to protect aquatic life at a particular location based on the site's physical, chemical, and/or biological conditions. For example, the biotic ligand model (BLM) for copper takes into account all of the water chemistry parameters of the specific receiving water that have a major influence on copper toxicity. This approach allows the criteria to be customized for a specific location. Site-specific criteria cannot be approved if they do not protect the designated uses of a waterbody. Any proposed site-specific criteria will not be added to the Water Quality Standards if the proposed criteria are not approved by both DEQ and EPA.

Quapaw Nation Comment 6: Body Contact Recreation Criteria
The Quapaw Nation understands that the State of Oklahoma is updating its Body Contact Recreation (PBCR) and Secondary Body Contact Recreation (SBCR) criteria to reflect the most recent EPA recommendations. The Quapaw Nation is willing to provide input to the updates; however, the Quapaw Nation is recommending Beneficial Use Designations of all perennial rivers and streams within the Quapaw Reservation as Culturally Significant. Therefore, the Culturally Significant designation would supersede the PBCR and SBCR designation criteria on Quapaw Reservation waters.

DEQ response to Quapaw Nation Comment 6: *A study should be completed to determine how the body contact recreation criteria for Culturally Sensitive Waters would be different than the criteria for Primary Body Contact Recreation before any waterbodies are designated as CSW.*

The remaining questions, concerns, or assertions raised by this comment do not concern DEQ's currently proposed rule changes; therefore, DEQ will not respond to those items in this rulemaking proceeding.

Mr. Bob Dailey – Resident of Inola, OK: Comment email received October 8, 2026

Mr. Bob Dailey - Comment 1:

What safeguards ensure that site-specific criteria continue to protect all applicable designated beneficial uses?

DEQ response to Mr. Dailey - Comment 1: *Site-specific criteria, and all other criteria, are based on sound scientific rationale and subject to EPA review and approval or disapproval under Section 303(c) of the Clean Water Act. Site-specific criteria are developed to protect aquatic life and designated beneficial uses at a particular site by taking into account a site's unique physical, chemical, and/or biological conditions.*

Mr. Bob Dailey - Comment 2:

Who is responsible for conducting the underlying studies, and what independent technical review is required?

DEQ response to Mr. Dailey - Comment 2: *The entity (usually the permittee) requesting the site-specific criteria is responsible for contracting a consultant to perform the studies and prepare a report for submittal to DEQ. The cost associated with site-specific criteria development is the responsibility of the party requesting the site-specific criteria. The results of the study are reviewed by DEQ and EPA for technical acceptability prior to inclusion of the proposed criteria in Chapter 730.*

Mr. Bob Dailey - Comment 3:

Are complete datasets, assumptions, analytical methods and supporting studies available for public examination?

DEQ response to Mr. Dailey - Comment 3: *All of this information will be made available for review when new site-specific criteria are proposed for adoption into Chapter 730.*

Mr. Bob Dailey - Comment 4:

How are seasonal variability, sensitive species, uncertainties in the data and potential bioaccumulation considered?

DEQ response to Mr. Dailey - Comment 4: *All of the above-mentioned factors would be taken into account during the development of a workplan and completion of site-specific study.*

Mr. Bob Dailey - Comment 5:

If a site-specific criterion results in a higher allowable pollutant concentration than the statewide criterion, what additional technical justification and public review are required?

DEQ response to Mr. Dailey - Comment 5: *Any new site-specific criteria study results must be reviewed by DEQ and EPA. If the criteria are acceptable to DEQ and EPA, the site-specific criteria must go through Oklahoma's rulemaking process which includes a public comment period before it can be officially adopted into Chapter 730.*

Mr. Bob Dailey - Comment 6:

Do the proposed provisions involving copper and selenium establish requirements that could influence how future site-specific criteria are developed for other pollutants?

DEQ response to Mr. Dailey - Comment 6: *The proposed revisions associated with copper and selenium have no effect on site-specific criteria development for other pollutants.*

Mr. Bob Dailey - Comment 7:

How are downstream water users considered when new discharge limits are established?

DEQ response to Mr. Dailey - Comment 7: *Any new or revised discharge limits must be protective of downstream uses.*

Mr. Bob Dailey - Comment 8:

Where different beneficial uses require different levels of protection for the same pollutant, how does DEQ determine which criterion governs the discharge?

DEQ response to Mr. Dailey - Comment 8: *The more protective criterion would be utilized in this situation.*

Mr. Bob Dailey - Comment 9:

How are pollutants addressed when scientifically established criteria are unavailable for a particular beneficial use?

DEQ response to Mr. Dailey - Comment 9: *Only pollutants with criteria established in Oklahoma's Water Quality Standards can be addressed in permitting actions.*

The remaining questions, concerns, or assertions raised by this comment do not concern DEQ's currently proposed rule changes; therefore, DEQ will not respond to those items in this rulemaking proceeding.

TITLE 252. DEPARTMENT OF ENVIRONMENTAL QUALITY
CHAPTER 740. IMPLEMENTATION OF OKLAHOMA'S WATER QUALITY STANDARDS

RULEMAKING ACTION:
PERMANENT final adoption
RULES:
Subchapter 1. General Provisions
252:740-1-2. Definitions [AMENDED]
252:740-1-6. Determination of regulatory low flow [AMENDED]
Subchapter 3. Implementation of Narrative Toxics Criteria to Protect Aquatic Life Using Whole Effluent Toxicity (WET) Testing
252:740-3-2. Dilutions for whole effluent toxicity testing [AMENDED]
Subchapter 5. Implementation of Numerical Criteria to Protect Fish and Wildlife From Toxicity Due to Conservative Substances
252:740-5-2. Regulatory flow determination [AMENDED]
252:740-5-3. Reasonable potential [AMENDED]
Subchapter 9. Implementation of Criteria to Protect the Agriculture Beneficial Use
252:740-9-3. Regulatory flows [AMENDED]
Subchapter 11. Implementation of Temperature Criteria to Protect Fish and Wildlife Propagation Beneficial Use
252:740-11-3. Regulatory flows [AMENDED]
Subchapter 13. Implementation of Antidegradation Policy
252:740-13-4. Tier 2 protection; maintenance and protection of sensitive water supply-reuse and other tier 2 waterbodies [AMENDED]
252:740-13-5. Tier 2.5 protection; maintenance and protection of High Quality Waters, Sensitive Water Supplies, and other Tier 2.5 waterbodies [AMENDED]
252:740-13-6. Tier 3 protection; prohibition against degradation of water quality in Outstanding Resource Waters [AMENDED]
252:740-13-8. Antidegradation review in surface waters [AMENDED]
Subchapter 15. Use Support Assessment Protocols
252:740-15-5. Assessment of Fish and Wildlife Propagation support [AMENDED]
252:740-15-6. Assessment of Primary Body Contact Recreation support [AMENDED]
252:740-15-7. Assessment of Public and Private Water Supply support [AMENDED]
252:740-15-13. Assessment of Secondary Body Contact Recreation support [NEW]
Subchapter 17. Implementation of Dissolved Oxygen Criteria to Protect Fish and Wildlife Propagation
252:740-17-2. Regulatory flows [AMENDED]
AUTHORITY:
Environmental Quality Board; 27A O.S. § 2-2-101.
Oklahoma Water Quality Standards; 27A O.S. §§ 2-6-103.2 and 2-6-103.3.
Water Quality Standards Implementation Plan; 27A O.S. § 1-1-202
SUBMISSION OF PROPOSED RULES TO GOVERNOR AND CABINET SECRETARY:
August 7, 2026
COMMENT PERIOD:
September 1, 2026, through October 19, 2026

PUBLIC HEARING:
Written comments were taken from September 1, 2026, through October 19, 2026. Oral comments were taken at the Formal Rulemaking Meeting on October 16, 2026, at 1:00 PM at the DEQ Headquarters, First Floor, 707 N. Robinson Avenue, Oklahoma City, OK 73102, and can be made at the Environmental Quality Board Meeting on November 10, 2026, at 9:30 AM at the Robert S. Kerr Environmental Research Center, 919 Kerr Research Dr, Ada, OK. 74820

ADOPTION:
November 10, 2026. (Proposed)

SUBMISSION OF ADOPTED RULES TO GOVERNOR AND LEGISLATURE:
November 20, 2026

EFFECTIVE:
September 15, 2027 (Proposed)

SUPERSEDED EMERGENCY ACTIONS:
n/a

INCORPORATION BY REFERENCE:

Incorporated standards: None

Incorporating rules:
None

Availability:
Copies of the proposed rules may be obtained from the contact person, reviewed at the Department of Environmental Quality, 707 N. Robinson, Oklahoma City, Oklahoma, during normal business hours (8:00 am - 4:30 pm Monday through Friday) or reviewed online at https://oklahoma.gov/deq/rules-and-regulations/proposed-rules-regulations.html.

GIST/ANALYSIS:
The gist of this rule and the underlying reason for the rulemaking is to comply with the Water Quality Standards Triennial Review and includes the following updates: add, remove, and/or modify certain definitions; update reasonable potential to allow the use of a fish tissues study to confirm the need for a water quality-based effluent limit; update Assessment of Fish and Wildlife Propagation support to add fish tissue criteria as the preferred method for assessing waterbodies for selenium, with water column criteria being used if fish tissue is unavailable; and add Assessment of Secondary Body Contact Recreation support to add criteria values for assessment**.**

CONTACT PERSON:
Nicole Newcomer, Water Quality Division, 707 N. Robinson, P.O. Box 1677, Oklahoma City, OK 73101-1677, email nicole.newcomer@deq.ok.gov, phone (405) 702-8290, or fax (405) 702-8101.

CHAPTER 740. IMPLEMENTATION OF OKLAHOMA'S WATER QUALITY STANDARDS

SUBCHAPTER 1. GENERAL PROVISIONS

252:740-1-2. Definitions

In addition to definitions of terms found in OAC 252:730-1-2, which are incorporated herein by reference, the following words, terms and notations, when used in this Chapter, shall have the following meanings unless the context clearly indicates otherwise:

~~**"7T2"** means the seven-day maximum temperature likely to occur with a 50% probability each year. The 7T2 is calculated using a moving average of seven consecutive days for each year in a given record. These seven-day receiving stream temperature values are ranked in descending order. An order number, m, is calculated based on the number of years of record, n, with a recurrence interval of 2 years, as m = (n+1)/2. The mth highest average temperature is the 7T2.~~

"7Q2" means the 7-day low flow of a stream likely to occur with a 50% probability each year. The procedure for determining a site-specific 7Q2 is described at OAC 252:740-1-6.

"7T2" means the seven-day maximum temperature likely to occur with a 50% probability each year. The 7T2 is calculated using a moving average of seven consecutive days for each year in a given record. These seven-day receiving stream temperature values are ranked in descending order. An order number, m, is calculated based on the number of years of record, n, with a recurrence interval of 2 years, as m = (n+1)/2. The mth highest average temperature is the 7T2.

"30Q2" means the 30-day low flow of a stream likely to occur with a 50% probability each year. The procedure for determining a site-specific 30Q2 is described at OAC 252:740-1-6.

"A" means mean annual average flow.

"ACR" means acute to chronic ratio.

"Acute to chronic ratio" means LC50/NOEC. The NOEC is the highest concentration at which no effect on test organisms is observed over a relatively long period. Quarterly biomonitoring over the life of the permit is sufficient to determine the ACR if the NOEC and LC50 may be determined. If the ACR is unknown, a default value of 10 may be used for implementation purposes.

"Background" means the ambient condition upstream or upgradient from a facility, practice, or activity which has not been affected by that facility, ~~practice~~ practice, or activity.

"Beneficial use limitation" means a more stringent restriction than that required to protect the beneficial use. A prohibition on new point sources is an example of a beneficial use limitation.

"Bioaccumulation Factor" or **"BAF"** is the ratio (in liters per kilogram of tissue) of the concentration of a chemical in the tissue of an aquatic organism to its concentration in water, in situations where both the organism and its food are exposed, and the ratio does not change substantially over time.

Board" means the Environmental Quality Board.

"BOD" means biochemical oxygen demand.

"C" means maximum concentration on the mixing zone boundary.

"C_{95}" means the 95th percentile maximum likelihood concentration.

"C_B" means background concentration.

"C_e" means effluent concentration.

"cfs" means cubic feet per second.

"cfu" means colony-forming units or the equivalent unit of MPN (most probable number). 1cfu = 1 MPN.

"C_{mean}" means the geometric mean of all effluent concentrations analyzed for the toxicant.

"C_t" means the appropriate criterion listed in OAC 252:730.

"CBOD" means carbonaceous biochemical oxygen demand.

"Coefficient of variation" means standard deviation divided by the mean.

"Coliform group organisms" means all of the aerobic and facultative anaerobic, gram-negative, non-spore-forming, rod-shaped bacteria that ferment lactose broth with gas formation within 48 hours at 35° C or possess the beta-galactosidase enzyme to produce a positive chromogenic or fluorogenic reaction. Measurements of bacteria can be expressed as either colony-forming units (cfu) or most probable number (MPN).

"Continuing Planning Process" or **"CPP"** means the most recent edition of the document produced annually by the Oklahoma Department of Environmental Quality which describes water quality programs implemented within the State.

"Continuing toxicity" means a tendency to be toxic.

"Continuous discharge" means a discharge which occurs without interruption throughout the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or other similar activities.

"Control" means test organisms exposed to 0% effluent as part of the whole effluent toxicity testing procedure.

"Cooling water reservoir" means a privately owned reservoir used in the process of cooling water for industrial purposes.

"CV" means coefficient of variation.

"D" means diameter of the discharge pipe in feet.

"Dilution capacity" means a measure of the ability of the receiving stream to dilute effluent, defined as the ratio of the regulatory effluent flow to the regulatory receiving stream flow.

"Dilution factor" or **"df"** means a measure of the minimum dilution that occurs on the mixing zone boundary.

"DO" means dissolved oxygen.
"Drainage area" means the area above the discharge drained by the receiving stream.
"EPA" means the United States Environmental Protection Agency.
"Event mean concentration" means the flow-weighted average for a given storm event. The flow-weighted average is represented as the sum of the loads calculated for a series of storm samples divided by the sum of the discharges calculated for each of the storm samples.
~~**"EPA" means the United States Environmental Protection Agency.**~~
"HQW" means high quality waters as defined in OAC 252:730-3-2(b).
"Implementation Plan" means a Water Quality Standards Implementation Plan developed and promulgated by a state environmental agency as required by 27A O.S. § 1-1-202.
"Increased load" means the mass of pollutant discharged which is greater than the permitted mass loadings and concentrations, as appropriate, in the discharge permit effective when the SWS, SWS-R, HQW, or ORW beneficial use limitation was assigned.
"Lake mixing zone" means a volume extending one hundred feet from the source for implementation purposes, unless otherwise specified in OAC 252:730.
"LC50" means the lethal concentration as defined in OAC 252:730-1-2.
"LMFO" means licensed managed feeding operation as defined in 2 O.S. § 9-202.
"Mean annual average flow" means the annual mean flow found in "Statistical Summaries", USGS publication no. 87-4205, or most recent version thereof, or other annual mean flow as approved by the Oklahoma Water Resources Board or the permitting authority.
"Monthly average level" means the concentration of a toxicant in the permit which may not be exceeded by the observed effluent concentration averaged over a calendar month.
"Naturally occurring condition" means any condition affecting water quality which is not caused by human influence, including, but not limited to, soils, geology, hydrology, climate, wildlife, and water flow with specific consideration given to seasonal and other natural variations.
"NLW" means nutrient-limited watershed as defined in OAC 252:730-1-2.
"NOEC" means no observed effect concentration.
"Normal pool elevation" means the elevations listed in the "Oklahoma Water Atlas", Oklahoma Water Resources Board publication No. 135, or most recent version thereof.
"NPDES" means National Pollutant Discharge Elimination System.
~~**"Normal pool elevation"** means the elevations listed in the "Oklahoma Water Atlas", Oklahoma Water Resources Board publication no. 135, or most recent version thereof.~~
"ORW" means Outstanding Resource Waters as defined in OAC 252:730-3-2(a).
"Outfall" means a point source which contains all the effluent being discharged to the receiving water.
"Permitting authority" means state environmental agency as defined or provided in Title 27A of the Oklahoma Statutes having jurisdiction as provided by law.
"Persistent toxicity" means toxicity due to effluent constituents which are not subject to decay, degradation, transformation, volatilization, hydrolysis, or photolysis.
"Q*" means dilution capacity.
"Q_e" means the regulatory effluent flow.
"Q_{el}" means long-term average effluent flow.
"Q_{es}" means short-term average effluent flow.
"Q_u" means the regulatory receiving stream flow.
~~**"Regulatory mixing zone"** means the volume of receiving water described in OAC 252:730-5-26.~~
"Reasonable potential factor" means the 95th percentile maximum likelihood estimator for a lognormal distribution.
"Regulatory low flow" means a condition where the flow of water in a stream is significantly reduced, often during prolonged dry weather. This phenomenon is characterized by a decrease in stream flow, which can be defined by specific statistics such as 7Q2 or 30Q2. Regulatory low flow is important for setting permit discharge limits and ensuring ecological protection, as it can lead to water quality issues and affect water resources. 30Q2 shall be used only for setting discharge permit limits for selenium.
"Regulatory mixing zone" means the volume of receiving water described in OAC 252:730-5-26.
"Selenium fish tissue study" means a study designed to assess selenium concentrations in fish tissue to determine if fish tissue concentrations are in compliance with state selenium fish tissue criteria, determine reasonable potential, and/or to derive a site-specific water column criterion element using a translator. Prior to conducting a fish tissue study, a work plan and quality assurance project plan shall be submitted to and approved by DEQ.
"SS" means sample standard as defined in OAC 252:730-1-2.
"Steady-state" refers to an aquatic ecosystem where the inputs are stable, and the bioaccumulation of toxins or inputs has reached homeostasis within organisms in the system. DEQ will require a waiting period of 6 months in rivers and streams and 3 years in lakes following any major changes to system inputs or discharges.
"Storm event" means precipitation, after a minimum of 72 hours has elapsed since cessation of previous precipitation, in the watershed of a stream segment that produces a 30 percent rise in stream flow over the average flow of the preceding 72 hours resulting from surface run-off.

"SWS" means Sensitive Public and Private Water Supplies.
"SWS-R" means waterbodies classified as sensitive public and private water supplies that may be augmented with reclaimed municipal water for the purpose of indirect potable reuse.
"T" means maximum temperature difference at the edge of the mixing zone boundary.
"T_a" means regulatory ambient temperature.
"T_c" means the temperature criterion.
"T_f" means the 95th percentile maximum observed effluent temperature.
"TDS" means total dissolved solids at 180C.
"Total maximum daily load" or **"TMDL"** means the sum of individual wasteload allocations for point sources, safety reserves, and loads from nonpoint source and natural backgrounds.
"Trophic State Index" or **"TSI"** means a numerical quantification of lake productivity. The Trophic State Index shall be determined by TSI = 9.81 x Ln(chlorophyll-a) + 30.6.
"TSS" means total suspended solids.
"USGS" means United States Geological Survey.
"W" means canal width in feet.
"YMS" means yearly mean standard as defined in OAC 252:730-1-2.

252:740-1-6. Determination of regulatory low flow

(a) **General.**

(1) **7Q2.** The 7Q2 is calculated as a moving average of seven consecutive days for each year in a given record. These seven-day low flow values are ranked in ascending order. An order number (m) is calculated based upon the number of years of record (n), with a recurrence interval (R) of two years, as m = (n+1)/R, where R = two years. A value of flow corresponding to the mth order is taken as the seven-day, two-year low flow for those historical data.

(2) **Seasonal 7Q2.** The seasonal 7Q2 is calculated as a moving average of seven consecutive days for the applicable dates specified in Table 1 of Appendix G of OAC 252:730 in a given period of record. These seven-day low flow values are ranked in ascending order. An order number (m) is calculated based upon the number of seasons (n) specified in Table 1 of OAC 252:730 Appendix G during the period of record, with a recurrence interval (R) of two years, as m = (n+1)/R, where R = two years. A value of flow corresponding to the mth order is taken as the seasonal seven-day, two-year low flow for those historical data.

(3) **30Q2.** The 30Q2 is only used in calculations for selenium. The 30Q2 is calculated as a moving average of thirty consecutive days for each year in a given record. These thirty-day low flow values are ranked in ascending order. An order number (m) is calculated based upon the number of years of record (n), with a recurrence interval (R) of two years, as m= (n+1)/R, where R=two years. A value of flow corresponding to the mth order is taken as the thirty-day, two-year low flow for those historical data.

(b) **Primary method for determination.** If the ~~7Q2~~ regulatory low flow or seasonal 7Q2 for a given stream or stream segment is determinable from the United States Geological Survey publication entitled "Statistical Summaries of Streamflow in and near Oklahoma Through 2007" or the latest version of the Water Quality Management Plan published by the Department of Environmental Quality, then that ~~7Q2~~ regulatory low flow and seasonal 7Q2 shall be conclusive except as provided otherwise in this section.

(c) **Alternative methods for determination of ~~7Q2~~ regulatory low flow or seasonal 7Q2.**

(1) In lieu of determining the ~~7Q2~~ regulatory low flow or seasonal 7Q2 as provided in (b) of this Section, the ~~7Q2~~ regulatory low flow for a given stream or stream segment may be determined by an affected person or the permitting authority if all of the following conditions are satisfied:

(A) A hydrological modification affecting the flow in the stream is documented to the satisfaction of DEQ and the permitting authority;

(B) At least 10 years of daily flow data comporting with the requirements of this section are available; and

(C) Data from the entire period of record for the stream, unless a different time frame of record is approved by the Board and the permitting authority, are used in the calculation.

(2) If the ~~7Q2~~ regulatory low flow or seasonal 7Q2 for a given stream or stream segment is not determinable as provided in (b) or (c)(1) of this Section or if additional daily flow data have been collected, then the ~~7Q2~~ regulatory low flow or seasonal 7Q2 for that stream or stream segment may be determined by an affected person or the permitting authority using the calculations provided in (a) of this Section, provided at least 10 years of daily flow data are available for that stream.

(3) If the flow is affected by contributions from gaged tributaries or other permitted discharges, then the ~~7Q2~~ regulatory low flow or seasonal 7Q2 for a given stream or stream segment may be determined taking those contributions at ~~7Q2~~ regulatory low flow or seasonal 7Q2, or both, into account on a case-by-case basis if approved by either DEQ or the permitting authority.

(4) If the ~~7Q2~~ regulatory low flow or seasonal 7Q2 for a given stream or stream segment is not determinable as provided in (b), (c)(1), (c)(2) or (c)(3) of this Section, then the ~~7Q2~~ regulatory low flow or seasonal 7Q2 for that stream or stream segment may be determined by an affected person or the permitting authority using an estimate based upon limited data only if both the method for estimating, and the estimate itself, are approved by both the Board and permitting authority.

(d) **Additional rules for ~~7Q2~~ regulatory low flow and seasonal 7Q2 determinations.**

(1) Any ~~7Q2~~ regulatory low flow or seasonal 7Q2 determined with a period of record less than 20 years shall be invalid for any purpose except the issuance of the permit or establishment of the site-specific criteria based upon and developed contemporaneously with such ~~7Q2~~ regulatory low flow or seasonal 7Q2. Any subsequent renewal of such permit must be based upon a fresh determination of the ~~7Q2~~ regulatory low flow or seasonal 7Q2 until the pertinent period of record equals or exceeds 20 years.

(2) Any subsequent renewal of a permit based upon a ~~7Q2~~ regulatory low flow or seasonal 7Q2 determined pursuant to (c)(3) or (c)(4) of this Section must be based upon a fresh determination of the ~~7Q2~~ regulatory low flow or seasonal 7Q2 that takes into account all discharge and flow data from the time the ~~7Q2~~ regulatory low flow or seasonal 7Q2 was previously determined.

(3) Any subsequent renewal of a permit based upon a ~~7Q2~~ regulatory low flow or seasonal 7Q2 determined pursuant to (c)(1) of this Section must be based upon a fresh determination of the ~~7Q2~~ regulatory low flow or seasonal 7Q2 that takes into account whether the hydrological modification continues to exist.

(e) **Alternative method for determination of regulatory low flow.** In stream segments where dams or other structures have substantially affected the historic flow regime of the stream segment, including but not limited to the portions of the Verdigris and Arkansas Rivers constituting the McClellan-Kerr Arkansas River Navigation System, on a site-specific basis a properly designed and implemented hydrologic study approved by the permitting authority and OWRB may be used to determine the appropriate regulatory low flow.

SUBCHAPTER 3. IMPLEMENTATION OF NARRATIVE TOXICS CRITERIA TO PROTECT AQUATIC LIFE USING WHOLE EFFLUENT TOXICITY (WET) TESTING

252:740-3-2. Dilutions for whole effluent toxicity testing

(a) **General.** Generally, two whole effluent toxicity tests shall be used to implement the narrative criteria to protect fish and wildlife propagation. The 48-hour acute test will be used to protect against acute toxicity in receiving water, and the 7-day or 21-day chronic test will be used to protect against chronic toxicity outside the chronic regulatory mixing zone.

(b) **Differing requirements for WET tests.**

(1) Three different toxicity testing requirements exist. Each is based upon dilution capacity, represented by Q*.

(2) When Q* is less than 0.054, acute testing only shall be required.

(3) When Q* is greater than 0.33, chronic testing only shall be required.

(4) When Q* is greater than or equal to 0.054 and less than or equal to 0.33, both acute and chronic testing shall be required.

(5) For a discharge directly to a lake, acute testing only shall be required.

(c) **Dilutions for chronic WET tests for streams.** Whole effluent chronic toxicity testing requires that test organisms be subjected to various effluent dilutions. The dilution series for chronic toxicity testing is based on the critical dilution (CD). The chronic critical dilution equations are as follows: CD = (1.94Q*) / (1 + Q*) when Q* is less than or equal to 0.1823, or CD = 1 / (6.17 - 15.51Q*) when Q* is greater than 0.1823 and less than 0.3333, or CD = 1 when Q* is greater than or equal to 0.3333. $Q^* = Q_e/Q_u$. Q_e is the largest thirty-day average flow for an industrial discharge, if known, and the design flow otherwise. Q_u is 1 cfs or the ~~7Q2~~ regulatory low flow receiving stream flow, if known to be larger.

(d) **Dilutions for acute WET tests.** The acute critical dilution is 100%.

SUBCHAPTER 5. IMPLEMENTATION OF NUMERICAL CRITERIA TO PROTECT FISH AND WILDLIFE FROM TOXICITY DUE TO CONSERVATIVE SUBSTANCES

252:740-5-2. Regulatory flow determination

(a) **Regulatory receiving stream flow.** Section 252:730-5-12(f)(6)(G) of the OAC defines the regulatory receiving stream flow upstream of the discharge, Q_u, to be used in implementing fish and wildlife propagation criteria. The Q_u is the greater of the ~~7Q2~~ regulatory low flow or 1 cfs. ~~7Q2~~ Regulatory low flow shall be determined according to OAC 252:740-1-6. Q_u is assumed to be 1 cfs if the ~~7Q2~~ regulatory low flow is unknown or the permittee chooses not to develop an actual ~~7Q2~~ regulatory low flow.

(b) **Regulatory flow for lakes.** No regulatory flow determination is required for lakes.

(c) **Regulatory effluent flows.** The regulatory effluent flow, Q_e, is the highest monthly averaged flow over the previous two years for industrial discharges if the permitting authority determines that sufficient data are available. For other dischargers (e.g. municipalities), Q_e is the design flow. If a significant daily or seasonal variability in effluent flow is present, a regulatory effluent flow should take this variability into account.

252:740-5-3. Reasonable potential

(a) **General.** The need for a permit limit will be determined, on a pollutant-by-pollutant basis, after determination of reasonable potential, which considers assimilation capacity of the receiving water and effluent variability.

(b) **Use of reasonable potential factor; relationship with wasteload allocation process.**

(1) The technical report produced by the Oklahoma Water Resources Board entitled "The Incorporation ~~Of~~ of Ambient Concentration With That Due ~~To~~ to Effluent ~~For~~ for Wasteload Allocation" shall be used to determine if there is a reasonable potential for a criterion exceedance outside the mixing zone. $C_{95} = 2.13C_{mean}$ is used for effluent concentration in the reasonable potential calculation. C_{mean} is the geometric mean of all effluent concentrations analyzed for the toxicant. If the geometric mean cannot be determined, an arithmetic mean may be substituted. If a large dataset of effluent concentrations is available, the permitting authority may not need to estimate C_{95}; the 95th percentile value can be calculated from the data.

(2) The wasteload allocation process is used to determine reasonable potential. C is the reasonable potential concentration on the chronic regulatory mixing zone boundary. C is calculated for chronic criteria in streams as: $C = C_B + (1.94Q^*(C_{95} - C_B)) / (1 + Q^*)$ when Q* is less than or equal to 0.1823, or $C = C_B + (C_{95} - C_B) / (6.17 - 15.51Q^*)$ when Q* is greater than 0.1823 and less than 0.3333, or $C = C_{95}$ when Q* is greater than or equal to 0.3333. $Q^* = Q_e/Q_u$. Q* is the dilution capacity. C is calculated for lakes as: *pipe:* $C = C_B + (D(C_{95} - C_B)) / 20.15$ when D is greater than or equal to 3 feet, or *canal:* $C = C_B + (W1/2(C_{95} - C_B)) / 4.2$ when W is greater than or equal to 3 feet. D is the diameter of the discharge pipe in feet and W is the width of the canal in feet. D and W shall not be less than three feet for implementation purposes. When C is the concentration on the acute regulatory mixing zone boundary it is calculated as $C = C_B + (Q_e (C_{95} - C_B) / 100)$. If Q_e is greater than 100 cfs, then 100 cfs shall be substituted for Q_e.

(3) For regulatory purposes, there is a reasonable potential for chronic toxicity if concentrations of ammonia outside the chronic regulatory mixing zone exceed 6 mg/L.

(c) **Selenium**

(1) If the permitting authority has site-specific, steady-state fish tissue data that were collected under and met appropriate quality-assurance procedures, those data shall be used to determine reasonable potential. If there is no excursion of the selenium fish tissue criterion element, it shall be determined that there is no reasonable potential. If fish tissue data exceed the selenium fish tissue criterion element, a water quality-based effluent limitation (WQBEL) shall be established based on a site-specific water column criterion element developed using a translator.

(2) Unless a selenium fish tissue study has been completed, the permitting authority shall use the water column criterion element to determine reasonable potential.

(3) Where the permitting authority has information that there are substantial new, known inputs or releases that would affect selenium concentrations in fish relative to environmental concentrations, the fish tissue will not be considered as being in steady-state with respect to selenium, and fish tissue criterion elements shall not be used to assess permit compliance or as permit limits. In these cases, the water column criterion element shall be used to assess reasonable potential and develop selenium WQBELs.

(4) For a continuous discharge, when using a water column criterion element to evaluate reasonable potential, the permitting authority shall use the 30-day chronic criterion element set forth in OAC 252:730 Appendix G, Table 4.

SUBCHAPTER 9. IMPLEMENTATION OF CRITERIA TO PROTECT THE AGRICULTURE BENEFICIAL USE

252:740-9-3. Regulatory flows

(a) **General.** Six regulatory flows are required for implementation of yearly mean standards and sample standards. They include stream flows, regulatory flows for lakes and regulatory effluent flows.

(b) **Long-term average flows for streams.** The greater of 1.47 cfs or mean annual average flow, A, will be used by the permitting authority for long-term average flows to implement yearly mean standards. Mean annual average flows may be obtained from the USGS publication entitled "Statistical Summaries of Streamflow in and near Oklahoma Through 2007". They may also be estimated on streams without gages using the Oklahoma Water Resources Board publication entitled "Estimation of Mean Annual Average Flows" (OWRB Technical Report 96-2).

(c) **Long-term average flow for lakes.** Mean annual average discharge from the lake, A, shall be used to implement the Agriculture beneficial use.

(d) **Regulatory long-term effluent flows.** If the permitting authority determines that sufficient data is available to calculate the mean annual effluent discharge, then such discharge shall be the long-term effluent flow, Q_{el}. If the permitting authority determines insufficient data is available to calculate the mean annual effluent discharge, then the design flow shall be the long-term effluent flow, Q_{el}.

(e) **Short-term average flow for streams.** OAC 252:730-5-4(d) requires that short-term average flow, Qs, be used to implement sample standards. The short-term average flow is determined so that short-term and long-term wasteload allocations are equally likely to be more stringent, depending on the historical concentration distribution for a particular segment. Q_s shall equal the greater of ~~1.0~~ 1 cfs or 0.68 A, where A is mean annual average stream flow.

(f) **Short-term average flows for lakes.** Short-term average flows for lakes are also determined by the formula in OAC 242:740-9-3(e). In this case A is the mean annual average lake discharge.

(g) **Short-term average effluent flows.** If the permitting authority determines that sufficient data is available to calculate the highest monthly average discharge for industrial discharges, then such discharge shall be the short-term average effluent flow, Q_{es}. If the permitting authority determines insufficient data is available to calculate the highest monthly average discharge for industrial discharges, then the design flow shall be the short-term average effluent flow, Q_{es}.

SUBCHAPTER 11. IMPLEMENTATION OF TEMPERATURE CRITERIA TO PROTECT FISH AND WILDLIFE PROPAGATION BENEFICIAL USE

252:740-11-3. Regulatory flows

(a) Regulatory receiving stream flow to protect the Fish and Wildlife Propagation beneficial use, Q_u, is the greater of the ~~7Q2~~ regulatory low flow or 1 cfs. Q_u is assumed to be 1 cfs if the ~~7Q2~~ regulatory low flow is unknown.

(b) The regulatory effluent flow, Q_e, is defined as the highest monthly averaged flow in cfs over the past two years for industrial discharges with adequate data. Q_e is the design flow in cfs for other dischargers.

SUBCHAPTER 13. IMPLEMENTATION OF ANTIDEGRADATION POLICY

252:740-13-4. Tier 2 protection; maintenance and protection of sensitive water supply-reuse and other tier 2 waterbodies

(a) **General rules for Sensitive Water Supply - Reuse (SWS-R) Waters.**

(1) Classification of SWS-R Waters. DEQ may consider classification of a waterbody as an SWS-R waterbody based upon required documentation submitted by any interested party. The interested party shall submit documentation presenting background information and justification to support the classification of a waterbody as SWS-R including, but not limited to, the following:

(A) Determination of the waterbody's assimilative capacity pursuant to OAC 252:740-13-8, including all supporting information and calculations.

(B) Documentation demonstrating that municipal wastewater discharge for the purpose of water supply augmentation has been considered as part of a local water supply plan or other local planning document.

(C) Any additional information or documentation necessary for DEQ's consideration of a request for the classification of a waterbody as SWS-R.

(D) Prior to consideration by DEQ, any interested party seeking the classification of a waterbody as SWS-R shall submit documentation to DEQ staff demonstrating that local stakeholders, including those that use the waterbody for any designated or existing beneficial uses, have been afforded notice and an opportunity for an informal public meeting, if requested, regarding the proposed classification of the waterbody as SWS-R at least one hundred eighty (180) days prior to DEQ consideration. In addition, all information or documentation submitted pursuant to this subsection shall be available for public review.

(2) The drought of record waterbody level shall be considered the receiving water critical condition for SWS-R waterbodies.

(A) All beneficial uses shall be maintained and protected during drought of record conditions.

(B) Drought of record shall be determined with the permitting authority approved monthly time step model using hydrologic data with a minimum period of record from 1950 to the present. If empirical data are not available over the minimum period of record, modeled data shall be included in the analysis, if available.

(3) In accordance with OAC 252:730-5-25(c)(8)(D), SWS-R waterbodies with a permitted discharge shall be monitored and water quality technically evaluated to ensure that beneficial uses are protected and maintained and use of assimilative capacity does not exceed that prescribed by permit. Prior to any monitoring and/or technical analysis, the permittee shall submit a Receiving Water Monitoring and Evaluation Plan to the permitting authority for review and approval.

(A) The Receiving Water Monitoring and Evaluation Plan shall include, at a minimum, the following sections:

(i) Monitoring section that meets the required spatial, temporal, and parametric coverage of this subchapter, OAC 252:740-15, and OAC 252:628-11.

(ii) Analysis and reporting section that meets the requirements of this subchapter, OAC 252:740-15, and OAC 252:628-11.

(iii) Quality Assurance Project Plan that meets the most recent requirements for United States Environmental Protection Agency Quality Assurance Project Plans.

(B) The monitoring section of the Receiving Water Monitoring and Evaluation Plan, at a minimum shall:

(i) Include parametric, temporal (including frequency of sampling events), and spatial sampling design adequate to characterize water quality related to limnological, hydrologic, seasonal, and diurnal influences and variation.

(ii) Include nutrient monitoring adequate to characterize both external and internal loading and nutrient cycling.

(iii) Include algal biomass monitoring consistent with this sub-paragraph (B) and phytoplankton monitoring sufficient to evaluate general shifts and/or trends in phytoplankton community dynamics

over time.

(iv) Include in-situ monitoring of dissolved oxygen, temperature, and pH adequate to characterize diurnal changes and fluctuations during periods of thermal stratification and complete mix.

(v) Include monitoring of pollutants with a permit effluent limit and/or permit monitoring requirements.

(C) The Receiving Water Monitoring and Evaluation Plan may include special studies, as necessary.

(D) At least biennially and prior to permit renewal, the permittee shall submit a Receiving Water Monitoring and Evaluation Report to the permitting authority that includes, at a minimum:

(i) Summarized review of monitoring objectives and approach.

(ii) Presentation and evaluation of monitoring results, including an analysis of both short-term and long-term trends.

(iii) An assessment of beneficial use attainment that is at a minimum in accordance with OAC 252:740-15.

(iv) Summarized assessment of data quality objectives, including an explanation of any data quality issues.

(v) All monitoring data shall be submitted electronically.

(E) If the report documents nonattainment of a beneficial use(s) resulting from the discharge, the permitting authority shall consider actions including, but not limited to, additional permit requirements, cessation of the discharge, and/or a recommendation to DEQ to revoke the SWS-R waterbody classification.

(b) **General rules for other Tier 2 ~~Waterbodies~~ waterbodies.** General rules for other Tier 2 waterbodies shall be developed as waters are identified.

252:740-13-5. Tier 2.5 protection; maintenance and protection of ~~high quality waters, sensitive water supplies, and other tier~~High Quality Waters, Sensitive Water Supplies, and other Tier 2.5 waterbodies

(a) **General rules for High Quality Waters.** New point source discharges of any pollutant after June 11, 1989, and increased load or concentration of any specified pollutant from any point source discharge existing as of June 11, 1989, shall be prohibited in any waterbody or watershed designated in Appendix A of OAC 252:730 with the limitation "HQW". Any discharge of any pollutant to a waterbody designated "HQW" which would, if it occurred, lower existing water quality shall be prohibited. Provided however, new point source discharges or increased load or concentration of any specified pollutant from a discharge existing as of June 11, 1989, may be approved by the permitting authority in circumstances where the discharger demonstrates to the satisfaction of the permitting authority that such new discharge or increased load or concentration would result in maintaining or improving the level of water quality which exceeds that necessary to support recreation and propagation of fishes, shellfishes, and wildlife in the receiving water.

(b) **General rules for sensitive ~~public and private water supplies~~Public and Private Water Supplies.** New point source discharges of any pollutant after June 11, 1989, and increased load of any specified pollutant from any point source discharge existing as of June 11, 1989, shall be prohibited in any waterbody or watershed designated in Appendix A of OAC 252:730 with the limitation "SWS". Any discharge of any pollutant to a waterbody designated "SWS" which would, if it occurred, lower existing water quality shall be prohibited. Provided however, new point source discharges or increased load of any specified pollutant from a discharge existing as of June 11, 1989, may be approved by the permitting authority in circumstances where the discharger demonstrates to the satisfaction of the permitting authority that such new discharge or increased load will result in maintaining or improving the water quality in both the direct receiving water, if designated SWS, and any downstream waterbodies designated SWS.

(c) **Stormwater discharges.** Regardless of subsections (a) and (b) of this Section, point source discharges of stormwater to waterbodies and watersheds designated "HQW", "SWS" may be approved by the permitting authority.

(d) **Nonpoint source discharges or runoff.** Best management practices for control of nonpoint source discharges or runoff should be implemented in watersheds of waterbodies designated "HQW", or "SWS" in Appendix A of OAC 252:730.

252:740-13-6. Tier 3 protection; prohibition against degradation of water quality in ~~outstanding resource waters~~Outstanding Resource Waters

(a) **General.** New point source discharges of any pollutant after June 11, 1989, and increased load of any pollutant from any point source discharge existing as of June 11, 1989, shall be prohibited in any waterbody or watershed designated in Appendix A of OAC 252:730 with the limitation "ORW" and/or "Scenic River", and in any waterbody located within the watershed of any waterbody designated with the limitation "Scenic River". Any discharge of any pollutant to a waterbody designated "ORW" or "Scenic River" which would, if it occurred, lower existing water quality shall be prohibited.

(b) **Stormwater discharges.** Regardless of OAC 252:740-13-6(a), point source discharges of stormwater from temporary construction activities to waterbodies and watersheds designated "ORW" and/or "Scenic River" may be permitted by the permitting authority. Regardless of OAC 252:740-13-6(a), discharges of stormwater to waterbodies and watersheds designated "ORW" and/or "Scenic River" from point sources existing as of June 25, 1992, whether or not such stormwater discharges were permitted as point sources prior to June 25, 1992, may be permitted by the permitting authority; provided, however, increased load of any pollutant from such stormwater discharge shall be prohibited.

(c) **Nonpoint source discharges or runoff.** Best management practices for control of nonpoint source discharges or runoff should be implemented in watersheds of waterbodies designated "ORW" in Appendix A of OAC 252:730, provided, however, that

development of conservation plans shall be required in sub-watersheds where discharges or runoff from nonpoint sources are identified as causing or significantly contributing to degradation in a waterbody designated "ORW".

(d) ~~LMFO's~~ **LMFOs.** *No licensed managed feeding operation* (LMFO) *established after* June 10, 1998 *which applies for a new or expanding license* from the State Department of Agriculture *after March 9, 1998 shall be located...[w]ithin three (3) miles of any designated scenic river area as specified by the Scenic Rivers Act* in 82 O.S. Section 1451 and following, or *[w]ithin one (1) mile of a waterbody* [2:9-210.3(D)] designated in Appendix A of OAC 252:730 as "ORW".

252:740-13-8. Antidegradation review in surface waters

(a) **General.** The antidegradation review process below presents the framework to be used when making decisions regarding the intentional lowering of water quality, where water quality is better than the minimum necessary to protect beneficial uses. ~~OWRB technical guidance TRWQ2017-01 provides additional information.~~

(b) **Determination of Assimilative Capacity in Tier 2, Tier 2.5, and Tier 3 Waters.**

(1) All water quality monitoring and technical analyses necessary to determine receiving waterbody assimilative capacity for all applicable numeric and narrative criteria and associated parameters protective of waterbody beneficial uses shall be conducted by the interested party.

(2) Prior to initiating any monitoring or technical analysis to support determination of waterbody assimilative capacity, the interested party shall submit a workplan for review and approval by DEQ staff.

(3) As part of an approved workplan, the interested party shall characterize existing water quality of the receiving waterbody for each applicable criteria and associated parameters and evaluate if there is available assimilative capacity. Characterization of existing water quality shall address, at a minimum:

(A) Measurement of load and or concentration for all applicable criteria and associated parameter(s) in the receiving water; and

(B) The measurement of both existing and proposed point and nonpoint source discharge concentrations and/or loadings; and

(C) The critical low flow or critical lake level of the receiving waterbody, including drought of record in waterbodies receiving IPR discharges; and

(D) The limnological, hydrologic, seasonal, spatial and temporal variability and critical conditions of the waterbody; and

(E) Volumetric determination of anoxic dissolved oxygen condition consistent with OAC 252:730 and OAC 252:740; and

(F) The bioaccumulative nature of a pollutant shall be considered when determining assimilative capacity; and

(G) The 303(d) List as contained in the most recently approved Integrated Water Quality Assessment Report shall be reviewed and any difference between the water quality assessment information and the characterization of existing water quality shall be reconciled.

(4) Assimilative capacity shall be determined by comparing existing water quality, as determined consistent with subsection (a)(3) above to the applicable narrative and numeric criteria. In Tier 2 waters, assimilative capacity shall be determined and used with a margin(s) of safety (OAC 252:740-13-8(d)(1)(D)), which takes into account any uncertainty between existing or proposed discharges and impacts on receiving water quality.

(5) When existing water quality does not meet the criterion or associated parameter necessary to support beneficial use(s) or is identified as impaired on Oklahoma's 303(d) List as contained in the most recently approved Integrated Water Quality Assessment Report, no assimilative capacity shall exist for the given criterion.

(c) **Use of Assimilative Capacity in Tier 1 Waters.** Available assimilative capacity may be used in Tier 1 waters such that water quality is maintained to fully protect all designated and existing beneficial uses.

(d) **Use of Assimilative Capacity in Tier 2 Waters.**

(1) If it is determined that assimilative capacity is available, the consumption of assimilative capacity may be allowed in a manner consistent with the requirements in 40 CFR 131.12(a)(2) and this subchapter. In allowing the use of assimilative capacity, the state shall assure that:

(A) Water quality shall be maintained to fully protect designated and existing beneficial uses.

(B) Assimilative capacity shall be reserved such that all applicable narrative criteria in OAC 252:730 are attained and beneficial uses are protected.

(C) Fifty percent (50%) of assimilative capacity shall be reserved for all applicable water quality criteria listed in OAC 252:730, Appendix G, Table 2.

(D) In order to preserve a margin of safety, in no case shall any activity be authorized without the application of margin(s) of safety specified below:

(i) A twenty percent (20%) margin of safety shall be applied to an applicable numeric criterion for chlorophyll-a, total phosphorus, and total nitrogen. If numeric criteria are not available, the narrative nutrient criterion (OAC 252:730-5-9(d)) shall be applied and a twenty percent (20%) margin of safety shall be applied to the parameters listed in the criterion.

(ii) No more than forty-five percent (45%) of the lake volume shall be less than the dissolved oxygen criterion magnitude in OAC 252:730-5-12(f)(1)(C)(ii).

(iii) If the existing value of a criterion is within the margin of safety, no assimilative capacity is available and existing water quality shall be maintained or improved.

(E) When existing water quality does not satisfy the applicable criterion and support beneficial use(s) or has been designated as impaired in Oklahoma's 303(d) List as contained in the most recently approved Integrated Water Quality Assessment Report, the applicable criterion shall be met at the point of discharge. If a TMDL has been approved for the impairment, loading capacity for the parameter may be available if TMDL load allocations include the proposed load from the discharge.

(2) An analysis of alternatives shall evaluate a range of practicable alternatives that would prevent or lessen the water quality degradation associated with the proposed activity. When the analysis of alternatives identifies one or more practicable alternatives, the State shall only find that a lowering is necessary if one such alternative is selected for implementation.

(3) After an analysis of alternatives and an option that utilizes any or all of the assimilative capacity is selected, the discharger must demonstrate that the lowering of water quality is necessary to accommodate important economic or social development in the area in which the waters are located.

(e) **Use of Assimilative Capacity in Tier 2.5 or ~~3.0~~ 3 Waters.** Consistent with OAC 252:730-3-2(a) - (c), 252:730-5-25(a), 252:730-5-25(b), and 252:730-5-25(c)(1) - (c)(6) all available assimilative capacity shall be reserved in waterbodies classified as Tier 2.5 or ~~3.0~~ 3 waters.

(f) **Public Participation.** Agencies implementing subsection 8(d) shall conduct all activities with intergovernmental coordination and according to each agency's public participation procedures, including those specified in Oklahoma's continuing planning process.

SUBCHAPTER 15. USE SUPPORT ASSESSMENT PROTOCOLS

252:740-15-5. Assessment of Fish and Wildlife Propagation support

(a) **Scope.** The provisions of this Section shall be used to determine whether the beneficial use of Fish and Wildlife Propagation or any subcategory thereof designated in OAC 252:730 for a waterbody is supported.

(b) **Dissolved oxygen.** For purposes of assessment, listing and reporting under sections 303(d) and 305(b) of the federal Clean Water Act as amended, the procedure for determining use support of the Fish and Wildlife Propagation beneficial use or any subcategory thereof with respect to dissolved oxygen shall be as follows:

(1) **Support tests for HLAC streams.**

(A) The HLAC subcategory of the Fish and Wildlife Propagation beneficial use designated for a stream shall be deemed to be fully supported with respect to the DO criterion if 10% or less of the samples across all life stages and seasons exhibit DO concentration below the following season-specific thresholds:

(i) April 1 through June 15: 4.0 mg/L

(ii) June 16 through March 31: 3.0 mg/L

(B) The HLAC subcategory of the Fish and Wildlife Propagation beneficial use designated for a stream shall be deemed to be not supported with respect to the DO criterion if more than 10% of the samples across all seasons exhibit DO concentrations below the following season-specific thresholds due to other than naturally occurring conditions:

(i) April 1 through June 15: 4.0 mg/L

(ii) June 16 through March 31: 3.0 mg/L

(2) **Support tests for WWAC streams.**

(A) The WWAC subcategory of the Fish and Wildlife Propagation beneficial use designated for a stream shall be deemed to be fully supported with respect to the DO criterion if 10% or less of the samples across all life stages and seasons exhibit DO concentration below the following season-specific thresholds:

(i) April 1 through June 15: 6.0 mg/L

(ii) June 16 through March 31: 5.0 mg/L

(B) The WWAC subcategory of the Fish and Wildlife Propagation beneficial use designated for a stream shall be deemed to be undetermined with respect to the DO criterion if more than 10% of the samples across all life stages and seasons exhibit DO concentrations below the upper DO threshold and 10% or less of the samples across all seasons exhibit DO concentrations below the lower DO threshold considering the following season-specific ranges:

(i) April 1 through June 15: 5.0 mg/L to 6.0 mg/L

(ii) June 16 through October 15: 4.0 mg/L to 5.0 mg/L

(C) The WWAC subcategory of the Fish and Wildlife Propagation beneficial use designated for a stream shall be deemed to be not supported with respect to the DO criterion if more than 10% of the samples across all life stages and seasons exhibit DO concentrations below the following season-specific thresholds due to other than naturally occurring conditions:

(i) April 1 through June 15: 5.0 mg/L

(ii) June 16 through October 15: 4.0 mg/L

(iii) October 16 through March 31: 5.0 mg/L

(3) **Support tests for CWAC and Trout streams.**

(A) The CWAC or Trout subcategory of the Fish and Wildlife Propagation beneficial use designated for a stream shall be deemed to be fully supported with respect to the DO criterion if 10% or less of the samples across all life stages and seasons exhibit DO concentrations below the following season-specific thresholds:

(i) March 1 through May 31: 7.0 mg/L

(ii) June 1 through last day of February: 6.0 mg/L

(B) The CWAC or Trout subcategory of the Fish and Wildlife Propagation beneficial use designated for a stream shall be deemed to be undetermined with respect to the DO criterion if more than 10% of the samples across all life stages and seasons exhibit DO concentrations below the upper DO threshold and 10% or less of the samples across all seasons exhibit DO concentrations below the lower DO threshold considering the following season-specific ranges:

(i) March 1 through May 31: 7.0 mg/L to 6.0 mg/L

(ii) June 1 through October 15: 6.0 mg/L to 5.0 mg/L

(C) The CWAC or Trout subcategory of the Fish and Wildlife Propagation beneficial use designated for a stream shall be deemed to be not supported with respect to the DO criterion if more than 10% of the samples across all life stages and seasons exhibit DO concentrations below the following season-specific thresholds due to other than naturally occurring conditions:

(i) March 1 through May 31: 6.0 mg/L

(ii) June 1 through October 15: 5.0 mg/L

(iii) October 16 through the last day of February: 6.0 mg/L

(4) **Support tests for WWAC lakes.** The WWAC subcategory of the Fish and Wildlife Propagation beneficial use designated for a lake shall be deemed to be fully supported with respect to the DO criterion if both the Surface and Water Column criteria prescribed in (5)(A) and (6)(A) of this subsection (b) are satisfied. If either of the Surface or Water Column criteria prescribed in (5)(B) or (6)(B) produce a result of undetermined, then the WWAC subcategory of the Fish and Wildlife Propagation beneficial use designated for a lake shall be deemed to be undetermined with respect to the DO criterion; provided, if either of the Surface or Water Column criteria prescribed in (5)(C) or (6)(C) produce a result of not supported, then the WWAC subcategory of the Fish and Wildlife Propagation beneficial use designated for a lake shall be deemed to be not supported with respect to the DO criterion.

(5) **Surface criteria for WWAC lakes.**

(A) The WWAC subcategory of the Fish and Wildlife Propagation beneficial use designated for a lake shall be deemed to be fully supported with respect to the DO criterion if 10% or less of the surface samples across life stages and all seasons exhibit DO concentrations below the following season-specific thresholds:

(i) April 1 through June 15: 6.0 mg/L

(ii) June 16 through March 31: 5.0 mg/L

(B) The WWAC subcategory of the Fish and Wildlife Propagation beneficial use designated for a lake shall be deemed to be undetermined with respect to the DO criterion if more than 10% of the surface samples across all life stages and seasons exhibit DO concentrations below the upper DO threshold and 10% or less of the surface samples across all seasons exhibit DO concentrations below the lower DO threshold considering the following season-specific ranges:

(i) April 1 through June 15: 5.0 mg/L to 6.0 mg/L

(ii) June 16 through October 15: 4.0 mg/L to 5.0 mg/L

(C) The WWAC subcategory of the Fish and Wildlife Propagation beneficial use designated for a lake shall be deemed to be not supported with respect to the DO criterion if more than 10% of the surface samples across all life stages and seasons exhibit DO concentrations below the following season-specific thresholds due to other than naturally occurring conditions:

(i) April 1 through June 15: 5.0 mg/L

(ii) June 16 through October 15: 4.0 mg/L

(iii) October 16 through March 31: 5.0 mg/L

(D) "Surface", when used in this Section, means surface waters or the mixed surface layer, typically represented by a sample taken at least 0.5 m below the surface.

(6) **Water column criteria for WWAC lakes.**

(A) The WWAC subcategory of the Fish and Wildlife Propagation beneficial use designated for a lake shall be deemed to be fully supported with respect to the DO criterion if less than 50% of the volume (if volumetric data is available) or 50% or less of the water column (if no volumetric data is available) of all sample sites in the lake are less than 2.0 mg/L.

(B) The WWAC subcategory of the Fish and Wildlife Propagation beneficial use designated for a lake shall be deemed to be undetermined with respect to the DO criterion (if no volumetric data is available) if 50% or more, but not greater than 70%, of the water column at any given sample site in the lake is less than 2.0 mg/L due to other than naturally occurring conditions.

(C) The WWAC subcategory of the Fish and Wildlife Propagation beneficial use designated for a lake shall be deemed to be not supported with respect to the DO criterion if 50% or more of the water volume (if volumetric data is available) or more than 70% of the water column (if no volumetric data is available) at any given sample site is less than 2.0 mg/L.

(D) If a lake specific study including historical analysis produces a support status which is contrary to an assessment obtained from the application of (A), (B) or (C) of (b)(6) of this section, then that lake specific result will control.

(7) **Additional application/exercise when support undetermined.** In instances where application of the tests in this subsection (b) initially produce a result that the pertinent subcategory is undetermined with respect to the DO criterion, such shall be subject to additional investigation that considers diurnal data for further application of such tests in order to resolve the determination of use support.

(c) **Toxicants.**

(1) **Test for Full Support.**

(A) The Fish and Wildlife Propagation beneficial use designated for a waterbody shall be deemed to be fully supported with respect to any individual toxicant parameter if no more than one of the sample concentrations from the waterbody exceeds the acute criterion for that toxicant prescribed in the numerical criteria for toxic substances in OAC 252:730-5-12(f)(6)(D) and (E) and OAC 252:730 Appendix G, Table 2.

(B) The Fish and Wildlife Propagation beneficial use designated for a waterbody shall be deemed to be fully supported with respect to any individual toxicant parameter if not more than 1 sample concentration or not more than 10% of the sample concentrations from the waterbody exceeds the chronic criterion for that toxicant prescribed in the numerical criteria for toxic substances in OAC 252:730-5-12(f)(6)(D), (E) and OAC 252:730 Appendix G, Table 2.

(2) **Test for Non-Support.**

(A) The Fish and Wildlife Propagation beneficial use designated for a waterbody shall be deemed to be not supported with respect to any individual toxicant parameter if more than one of the sample concentrations from the waterbody exceed the acute criterion for that toxicant prescribed in the numerical criteria for toxic substances in OAC 252:730-5-12(f)(6)(D) and (E) and OAC 252:730 Appendix G, Table 2.

(B) The Fish and Wildlife Propagation beneficial use designated for a waterbody shall be deemed to be not supported with respect to any individual toxicant parameter if more than 10 % of the sample concentrations from the waterbody exceed chronic criterion for that toxicant prescribed in the numerical criteria for toxic substances in OAC 252:730-5-12(f)(6)(D) and (E) and OAC 252:730 Appendix G, Table 2

(d) **pH.**

(1) The Fish and Wildlife Propagation beneficial use designated for a waterbody shall be deemed to be fully supported with respect to pH occurring other than by naturally occurring conditions if no more than 10% of the sample concentrations from that waterbody fall outside the criteria range prescribed in OAC 252:730-5-12(f)(3).

(2) The Fish and Wildlife Propagation beneficial use designated for a waterbody shall be deemed to be not supported with respect to pH occurring other than by naturally occurring conditions if greater than 10% of the sample concentrations from that waterbody fall outside the criteria range prescribed in OAC 252:730-5-12(f)(3).

(e) **Turbidity.** The criteria for turbidity stated in OAC 252:730-5-12(f)(7) shall constitute the screening levels for turbidity. The tests for use support shall follow the default protocol in OAC 252:740-15-4(b).

(f) **Oil and grease.**

(1) The Fish and Wildlife Propagation beneficial use designated for a waterbody shall be deemed to be fully supported with respect to oil and grease if a visible sheen or bottom deposits of oil or grease are observed on that waterbody in 10% or less of the observations.

(2) The Fish and Wildlife Propagation beneficial use designated for a waterbody shall be deemed to be not supported with respect to oil and grease if a visible sheen or bottom deposits of oil or grease are observed on that waterbody in more than 10% of the observations.

(g) **Suspended and bedded sediments.**

(1) If a stream is supporting the biological criteria assigned to that stream as provided in (e) and (i) through (n) of this section, then that stream will be deemed to be supporting its assigned Fish and Wildlife Propagation beneficial use with respect to suspended and bedded sediments.

(2) If a stream is not supporting the biological criteria assigned to that stream as provided in (e) and (i) through (n) of this section, then a habitat assessment must be conducted using the habitat assessment protocols found in OWRB Technical Report TRWQ2001-1, "Unified Protocols for Beneficial Use Assignment for Oklahoma Wadable Streams." The results of the habitat assessment shall then be compared to either historical conditions or regional reference conditions in order to determine attainment with respect to suspended and bedded sediments in that stream.

(3) The method for establishing reference conditions shall meet the following requirements:

(A) a minimum of five (5) reference streams or reaches shall be assessed;

(B) all of the reference streams or reaches must be within the same ecoregion as the test stream;

(C) all of the reference streams or reaches must be streams with similar flow regimes no more than two (2) stream orders removed from the test stream; and

(D) the reference streams shall be selected from the least impacted streams in the ecoregion whose watersheds contain soils, vegetation, land uses, and topography typical of the watershed of the test stream(s).

(4) The Fish and Wildlife Propagation beneficial use will be considered to be not supported with respect to suspended and bedded sediments if any of the following habitat parameters deviate from the reference conditions by the specified amount:

(A) The total percent of clay, silt, and loose sand in the pool bottom substrate of the test stream is increased by more than 30% over the reference condition;

(B) Cobble embeddedness in the test stream is increased by 15% or more over the reference condition;

(C) The percentage of the length of the reach containing fresh (non-vegetated) point bars and/or islands in the test stream is 20 or more percentage points above that of the reference condition; or

(D) The percentage of the length of the reach dominated by pools of a depth of 0.5 meters or more in the test stream is less than 70% of that of the reference condition.

(5) If all of the habitat parameters identified in (h)(4) of this section deviate from the reference conditions by less than the amounts specified in (h)(4) of this section, then the Fish and Wildlife Propagation beneficial use is not impaired due to suspended and bedded sediments.

(h) **Metals.**

(1) For all metals unless otherwise specified in this subsection, ~~The~~ the Fish and Wildlife Propagation beneficial use designated for a waterbody may be assessed using either total recoverable or dissolved metals. When available, the concentrations of dissolved metals shall be compared following the provisions of (c) of this subsection to the criteria in OAC 252:730 Appendix G converted to dissolved criteria by multiplying the total metal criterion listed in ~~table~~ Table 2 by the appropriate conversion factor listed in Table 3. Preference shall be given to the beneficial use determinations based upon dissolved metals. For those metals criteria requiring a hardness component, individual assessment results may be calculated using the average of all hardness data meeting the requirements of OAC 252:740-15-3. The segment-averaged hardness in Appendix B of this Chapter shall be used in the determination of the criterion if there is insufficient site-specific data to determine stream hardness.

(2) For selenium, the Fish and Wildlife Propagation beneficial use designated for a waterbody shall use fish tissue data as the preferred method for assessment and listing purposes if such data are adequate and available. The criteria are established in OAC 252:730 Appendix G, Table 4. In the absence of fish tissue data, either monthly average exposure or intermittent exposure water column criteria may be used. The intermittent exposure criterion element can only be exceeded under the same conditions that would have caused the monthly average exposure criterion element to be exceeded. Thus, evaluating data against the intermittent exposure criterion element and the monthly average exposure criterion element will always result in the same assessment decision. OAC 252:740-15-5(h)(2) provides for the implementation of fish tissue criterion elements and fish tissue studies for the protection of the Fish and Wildlife Propagation beneficial use as an alternative to water column-based criterion. All selenium fish tissue studies shall be approved by DEQ.

(i) **Biological criteria.**

(1) If data demonstrate that an assemblage of fish or macro invertebrates from a waterbody is significantly degraded, according to OAC 252:730-5-12(f)(5), from that expected for the subcategory of Fish and Wildlife Propagation designated in OAC 252:730 for that waterbody, then that subcategory may be deemed by the appropriate state environmental agency to be not supported.

(2) All physical assessments and biological collections shall be performed in accordance with the requirements set forth in OWRB Technical Report No. 99-3 entitled "Standard Operating Procedures for Stream Assessments and Biological Collections Related to Biological Criteria in Oklahoma".

(3) Evaluation of the biological collections shall include identification of fish samples to species level. Determinations of tolerance level shall be made according to Jester et al. 1992, "The Fishes of Oklahoma, Their Gross Habitats, and Their Tolerance of Degradation in Water Quality and Habitat", Proceedings of Oklahoma Academy of Sciences, 72:7-19.

(4) The determination of whether the use of Fish and Wildlife Propagation is supported in wadable streams in Oklahoma ecoregions shall be made according to all of the requirements of this subsection (e), the application of Appendix C of this Chapter, and the special provisions in subsections (i) through (o), where applicable, of this Section. Streams with undetermined use support status shall be subject to additional investigation that considers stream order, habitat factors and local reference streams before the use support determination is made. A finding of impairment for biocriteria due to any one of the parameters listed in this section shall trigger an evaluation of all likely causes, not precluding monitoring, assessment, and subsequent support determination of the Fish and Wildlife beneficial use for any of the other parameters in this section

(j) **Special provisions for Ouachita Mountains wadable streams.** The determination of whether the use of Fish and Wildlife Propagation is supported for wadable streams located in the Ouachita Mountains ecoregion shall be made according to the application of Appendix C of this Chapter, together with this subsection, as follows:

(1) Where designated, the subcategory of Warm Water Aquatic Community shall be deemed fully supported if the application of Appendix C produces a score of 35 or more. Such subcategory shall be deemed not supported if the application of Appendix C produces a score of 24 or less. If a score is 25 to 34 inclusive, the issue of whether this subcategory is supported shall be deemed undetermined.

(2) Where designated, the subcategory of Habitat Limited Aquatic Community shall be deemed fully supported if the application of Appendix C produces a score of 27 or more. Such subcategory shall be deemed not supported if the

application of Appendix C produces a score of 18 or less. If a score is 19 to 26 inclusive, the issue of whether this subcategory is supported shall be deemed undetermined.

(k) **Special provisions for Arkansas Valley wadable streams.** The determination of whether the use of Fish and Wildlife Propagation is supported for wadable /streams located in the Arkansas Valley ecoregion shall be made according to the application of Appendix C of this Chapter, together with this subsection, as follows:

(1) Where designated, the subcategory of Warm Water Aquatic Community shall be deemed fully supported if the application of Appendix C produces a score of 35 or more. Such subcategory shall be deemed not supported if the application of Appendix C produces a score of 24 or less. If a score is 25 to 34 inclusive, the issue of whether this subcategory is supported shall be deemed undetermined.

(2) Where designated, the subcategory of Habitat Limited Aquatic Community shall be deemed fully supported if the application of Appendix C produces a score of 27 or more. Such subcategory shall be deemed not supported if the application of Appendix C produces a score of 18 or less. If a score is 19 to 26 inclusive, the issue of whether this subcategory is supported shall be deemed undetermined.

(l) **Special provisions for Boston Mountains and Ozark Highlands wadable streams.** The determination of whether the use of Fish and Wildlife Propagation is supported for wadable streams located in the Boston Mountains and Ozark Highlands ecoregions shall be made according to the application of Appendix C of this Chapter, together with this subsection, as follows:

(1) Where designated, the subcategory of Cool Water Aquatic Community shall be deemed fully supported if the application of Appendix C produces a score of 37 or more. Such subcategory shall be deemed not supported if the application of Appendix C produces a score of 29 or less. If a score is 30 to 36 inclusive, the issue of whether this subcategory is supported shall be deemed undetermined.

(2) Where designated, the subcategory of Warm Water Aquatic Community shall be deemed fully supported if the application of Appendix C produces a score of 31 or more. Such subcategory shall be deemed not supported if the application of Appendix C produces a score of 22 or less. If a score is 23 to 30 inclusive, the issue of whether this subcategory is supported shall be deemed undetermined.

(m) **Special provisions for Central Irregular Plains wadable streams.** The determination of whether the use of Fish and Wildlife Propagation is supported for wadable streams located in the Central Irregular Plains ecoregion shall be made according to the application of Appendix C of this Chapter, together with this subsection, as follows:

(1) Where designated, the subcategory of Cool Water Aquatic Community shall be deemed fully supported if the application of Appendix C produces a score of 35 or more. Such subcategory shall be deemed not supported if the application of Appendix C produces a score of 28 or less. If a score is 29 to 34 inclusive, the issue of whether this subcategory is supported shall be deemed undetermined.

(2) Where designated, the subcategory of Warm Water Aquatic Community shall be deemed fully supported if the application of Appendix C produces a score of 30 or more. Such subcategory shall be deemed not supported if the application of Appendix C produces a score of 22 or less. If a score is 23 to 29 inclusive, the issue of whether this subcategory is supported shall be deemed undetermined.

(3) Where designated, the subcategory of Habitat Limited Aquatic Community shall be deemed fully supported if the application of Appendix C produces a score of 25 or more. Such subcategory shall be deemed not supported if the application of Appendix C produces a score of 16 or less. If a score is 17 to 24 inclusive, the issue of whether this subcategory is supported shall be deemed undetermined.

(n) Special provisions for Central Oklahoma - Texas Plains wadable streams. The determination of whether the Warm Water Aquatic Community subcategory of the Fish and Wildlife Propagation beneficial use is supported for wadable streams located in the Central Oklahoma - Texas Plains ecoregion shall be made according to the application of Appendix C of this Chapter, together with this subsection, as follows:

(1) Such subcategory shall be deemed fully supported if the application of Appendix C produces a score of 26 or more.

(2) Such subcategory shall be deemed not supported if the application of Appendix C produces a score of 19 or less.

(3) If the application of Appendix C produces a score of 20 to 25 inclusive, the issue of whether this subcategory is supported shall be deemed undetermined.

(o) **Special provisions for Central Great Plains wadable streams.** The subcategory of Warm Water Aquatic Community of the beneficial use of Fish and Wildlife Propagation in the wadable streams located in the Central Great Plains ecoregion shall be deemed fully supported if the application of Appendix C of this Chapter produces a score of 22 or more. Such subcategory shall be deemed not supported for the streams in the ecoregion of the application of Appendix C produces a score of 18 or less. If the application of Appendix C produces a score of 19 to 21 inclusive, the issue of whether this subcategory is supported for the streams in this ecoregion shall be deemed undermined. Provided, however, this subsection does not apply to the area bounded by State Highway 54 on the west, U.S. Highway 62 on the south, U.S. Highway 281 on the east and State Highway 19 on the north.

252:740-15-6. Assessment of Primary Body Contact Recreation support

(a) **Scope.** The provisions of this Section shall be used to determine whether the subcategory of Primary Body Contact of the beneficial use of Recreation designated in OAC 252:730 for a waterbody is supported during the recreation season from May 1 through September 30 each year. <u>The criteria for Secondary Body Contact Recreation will apply during the remainder of the year.</u> Where data exist for multiple bacterial indicators on the same waterbody or waterbody segment, the determination of use support shall be based upon the use and application of all applicable tests and data.

(b) ~~**Escherichia coli** ***Escherichia coli*** **(E. coli)** **(*E. coli*).**

(1) The Primary Body Contact Recreation subcategory designated for a waterbody shall be deemed to be fully supported with respect to *E. coli* if the geometric mean of 126 ~~colonies~~ cfu per 100 ~~ml~~ mL is met. These values are based upon all samples collected over the recreation period in accordance with OAC 252:740-15-3(c).

(2) The Primary Body Contact Recreation subcategory designated for a waterbody shall be deemed to be not supported with respect to *E. coli* if the geometric mean of 126 ~~colonies~~ cfu per 100 ~~ml~~ mL is not met. These values are based upon all samples collected over the recreation period in accordance with OAC 252:740-15-3(c).

(c) **Enterococci.**

(1) The Primary Body Contact Recreation subcategory designated for a waterbody shall be deemed to be fully supported with respect to enterococci if the geometric mean of 33 ~~colonies~~ cfu per 100 ~~ml~~ mL is met. These values are based upon all samples collected over the recreation period in accordance with OAC 252:740-15-3(c).

(2) The Primary Body Contact Recreation subcategory designated for a waterbody shall be deemed to be not supported with respect to enterococci if the geometric mean of 33 ~~colonies~~ cfu per 100 ~~ml~~ mL is not met. These values are based upon all samples collected over the recreation period in accordance with OAC 252:740-15-3(c).

252:740-15-7. Assessment of Public and Private Water Supply support

(a) **Scope.** The provisions of this Section shall be used to determine whether the beneficial use of Public and Private Water Supply or any subcategory thereof designated in OAC 252:730 for a waterbody is supported.

(b) **Toxicants.**

(1) The Public and Private Water Supply beneficial use designated for a waterbody shall be deemed to be fully supported with respect to any substance with criteria for such use listed in OAC 252:730 Appendix G if the sample concentrations from that waterbody do not exceed the criterion for that substance prescribed in OAC 252:730 Appendix G in more than 10% of the measurements, or if drinking water use restrictions are not in effect.

(2) The Public and Private Water Supply beneficial use designated for a waterbody shall be deemed to be not supported with respect to any substance with criteria for such use listed in OAC 252:730 Appendix G if the sample concentrations from that waterbody exceed the criterion for that substance prescribed in OAC 252:730 Appendix G in more than 10% of the measurements, or if drinking water use restrictions are put in effect by an agency with jurisdiction that require closure of the water supply.

(c) **Bacteria.** The screening level for total coliform bacteria shall be ~~5000 colonies~~ 5,000 cfu per 100 ~~ml~~ mL. The tests for use support shall follow the default protocol in OAC 252:740-15-4.

(d) **Threatened water supplies.** Waters of the state designated in OAC 252:730 as Public and Private Water Supply shall be presumed to be threatened when toxicants are detected but do not exceed the applicable criteria prescribed in OAC 252:730 Appendix G, or some drinking water use restrictions have been put into effect by an agency with jurisdiction, or the potential for adverse impacts to water quality exists, or more than one such conditions exist.

(e) **Oil and grease.**

(1) The Public and Private Water Supply beneficial use designated for a waterbody shall be deemed to be fully supported with respect to oil and grease if a visible sheen or bottom deposits of oil or grease are observed on that waterbody in 10% or less of the observations, and drinking water use restrictions that require more than conventional treatment related to oil and grease have not been put into effect by an agency with jurisdiction.

(2) The Public and Private Water Supply beneficial use designated for a waterbody shall be deemed to be not supported with respect to oil and grease if a visible sheen or bottom deposits of oil or grease are observed on that waterbody in more than 10% of the observations, or drinking water use restrictions that require more than conventional treatment related to oil and grease have been put into effect by an agency with jurisdiction.

252:740-15-13. Assessment of Secondary Body Contact Recreation support

(a) **Scope.** The provisions of this Section shall be used to determine whether the subcategory of Secondary Body Contact of the beneficial use of Recreation designated in OAC 252:730 for a waterbody is supported. Where data exist for multiple bacterial indicators on the same waterbody or waterbody segment, the determination of use support shall be based upon the use and application of all applicable tests and data.

(b) ***Escherichia coli* (*E. coli*).**

(1) The Secondary Body Contact Recreation subcategory designated for a waterbody shall be deemed to be fully supported with respect to *E. coli* if the geometric mean of 242 cfu per 100 mL is met. These values are based upon all samples collected in accordance with OAC 252:740-15-3(c).

(2) The Secondary Body Contact Recreation subcategory designated for a waterbody shall be deemed to be not supported with respect to *E. coli* if the geometric mean of 242 cfu per 100 mL is not met. These values are based upon all samples collected in accordance with OAC 252:740-15-3(c).

(c) **Enterococci.**

(1) The Secondary Body Contact Recreation subcategory designated for a waterbody shall be deemed to be fully supported with respect to enterococci if the geometric mean of 63 cfu per 100 mL is met. These values are based upon all samples collected in accordance with OAC 252:740-15-3(c).

(2) The Secondary Body Contact Recreation subcategory designated for a waterbody shall be deemed to be not supported with respect to enterococci if the geometric mean of 63 cfu per 100 mL is not met. These values are based upon all samples collected in accordance with OAC 252:740-15-3(c).

SUBCHAPTER 17. IMPLEMENTATION OF DISSOLVED OXYGEN CRITERIA TO PROTECT FISH AND WILDLIFE PROPAGATION

252:740-17-2. Regulatory flows

(a) The flow in the receiving stream, Q_u, shall be deemed to be the greater of the ~~7Q2~~ regulatory low flow or 1 cfs. If the ~~7Q2~~regulatory low flow is unknown, then Q_u shall be deemed to be 1 cfs.

(b) For industrial dischargers with adequate data as determined by the permitting authority, the effluent flow, Q_e, shall be deemed to be the highest monthly averaged flow over the previous two years. For all other discharges, the effluent flow shall be deemed to be the design flow.

(c) Provided, in stream segments where dams or other structures have substantially affected the historic flow regime of the stream segment, including but not limited to the portions of the Verdigris and Arkansas Rivers constituting the McClellan-Kerr Arkansas River Navigation System, the appropriate regulatory low flow in the receiving stream, Q_u, shall be as determined on a site-specific basis pursuant to properly designed and implemented hydrologic study approved by the permitting authority and DEQ.

TITLE 252. DEPARTMENT OF ENVIRONMENTAL QUALITY
CHAPTER 740. IMPLEMENTATION OF OKLAHOMA'S WATER QUALITY STANDARDS

EXECUTIVE SUMMARY:

The gist of this rule and the underlying reason for the rulemaking is to comply with the Water Quality Standards Triennial Review and includes the following updates: add, remove, and/or modify certain definitions; update reasonable potential to allow the use of a fish tissues study to confirm the need for a water quality-based effluent limit; update Assessment of Fish and Wildlife Propagation support to add fish tissue criteria as the preferred method for assessing waterbodies for selenium, with water column criteria being used if fish tissue is unavailable; and add Assessment of Secondary Body Contact Recreation support to add criteria values for assessment.

DIFFERENCE FROM ANALOGOUS FEDERAL RULES:

There are no differences from analogous federal rules.

ENVIRONMENTAL BENEFIT STATEMENT:

This rulemaking maintains the current environmental benefits as provided by law. These rules are not more stringent than corresponding federal rules.

SUMMARY OF COMMENTS AND RESPONSES:

City of Tulsa Water and Sewer Department: Comment letter received October 15, 2026
City of Tulsa WSD Comment 1:
252:740-1-2. Definitions - "Bioaccumulation Factor": The proposed added definition for "Bioaccumulation Factor" does not agree with EPA referenced definition for Bioaccumulation Factor, and instead appears to be the definition for Bioconcentration Factor (BCF). City of Tulsa WSD suggests that DEQ reevaluate this definition.

DEQ response to City of Tulsa WSD - Comment 1: *The definition for bioconcentration factor has been removed since it is not referenced elsewhere in this chapter. The definition for bioaccumulation factor in both Chapter 730 and 740 has been changed to "the ratio (in liters per kilogram of tissue) of the concentration of a chemical in the tissue of an aquatic organism to its concentration in water, in situations where both the organism and its food are exposed and the ratio does not change substantially over time", which is the definition cited by EPA in their "Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health" (2000).*

Mr. Bob Dailey – Resident of Inola, OK: Comment email received October 8, 2026

Mr. Bob Dailey - Comment 1:

When pollutants can accumulate in aquatic organisms, how does DEQ determine whether water-column measurements alone are sufficient?

DEQ response to Mr. Dailey - Comment 1: *With regard to selenium, water column values are based on dissolved total selenium in water and are derived from fish tissue values via bioaccumulation modeling. When selenium inputs are increasing, water column values are the applicable criterion element in the* absence of steady-state condition fish tissue data.

Mr. Bob Dailey - Comment 2:

Under the proposed selenium provisions, how will DEQ determine whether fish-tissue data adequately represent conditions expected after a significant new discharge begins?

DEQ response to Mr. Dailey - Comment 2: *A fish-tissue study for selenium will only be accepted if the receiving waterbody meets the definition of "steady-state" provided in Chapter 740. "Steady-state" in this context means that the inputs to the ecosystem are stable after a waiting period of 6 months in rivers or 3 years in lakes after any major changes to discharges or other potential selenium inputs to the waterbody.*

Mr. Bob Dailey - Comment 3:

How will the proposed 30Q2 calculation for selenium differ in practical application from the existing 7Q2 methodology?

DEQ response to Mr. Dailey - Comment 3: *The proposed water column criteria are based on a 30-day monthly average. 30Q2 (30-day low flow likely to occur with a 50% probability each year) was selected to align with the 30-day average selenium criterion for rivers and streams.*

Mr. Bob Dailey - Comment 4:

What scientific justification supports the different flow assumptions used for selenium?

DEQ response to Mr. Dailey - Comment 4: *The use of 30Q2 instead of 7Q2 was selected to correspond with the 30-day monthly average criterion for rivers and streams.*

The remaining questions, concerns, or assertions raised by this comment do not concern DEQ's currently proposed rule changes; therefore, DEQ will not respond to those items in this rulemaking proceeding.

IN THE MATTER OF) Matter No.
)
RULE OAC 252: 730 - Appendix A.4) Date filed: 10/15/2026

Subject area:
( ) Air Quality
( ) Hazardous Waste
( ) Laboratory
( ) Radiation
( ) Solid Waste
(✔) Water Quality
( ) Operator Certification
( ) Other

Petition will be referred by the Department to its appropriate program and to any appropriate Council.

1. Nature of request:
( ) Adoption of new rule(s)
(✔) Amendment of existing rule(s)
( ) Repeal of existing rule(s)
Identified as Rule Number(s): _____
(OAC number if known)

2. Attach a brief statement of the issues raised by the rule(s) which cause such a request to be made, a statement of your personal interest in the ruling, and how the proposed rulemaking would affect those interests and would affect others.

3. If this request has been discussed with the Department of Environmental Quality, please indicate the name of the Division and employee consulted; otherwise, state "n/a."

Yes, Executive Director Rob Singletary

4. If a Council has considered this matter, please indicate the name of the Council and the date(s) the matter was considered; otherwise, state "n/a."

n/a

5. Attachment(s): (✔) suggested language ( ) further explanation

Blue River Foundation of Oklahoma (Name of Business or group) by: Tyler Powell (print name) Consultant (title)

or Name of Individual (print): _____

Signature: Z. Tyler Powell

Address: P.O. Box 21262, OKC, OK 73156

Phone: (405) 802-4590

P.O. Box 971
Tishomingo, OK 73460
Steve Roy, Chairman
405.206.2978
Steve.roy@blueriverfoundationokla.com



October 8, 2026

Mr. Shannon Ferrell
Board Chairman
Oklahoma Department of Environmental Quality Board
707 N. Robinson Ave.
Oklahoma City, Oklahoma 73102

Re: Petition for Rulemaking to Designate Portions of the Blue River as an Outstanding Resource Water and Amend Appendix A.4 of OAC 252:730.

Dear Chairman Ferrell and Members of the Environmental Quality Board,

The Blue River of Oklahoma is Oklahoma's only spring-fed, undammed river, a unique natural resource that deserves the highest practical level of water-quality protection. Changing its designation from High-Quality Water (HQW) to Outstanding Resource Water (ORW) would recognize the river's exceptional value and strengthen safeguards intended to preserve its existing water quality for future generations. Additionally, this action would match the current ORW designation the waters enjoy as they pass through the Blue River Public Fishing and Hunting Area.

Oklahoma's water-quality standards are not simply descriptions of a river's condition. They provide a legal framework for protecting human health and aquatic life and for controlling pollutants entering state waters. Oklahoma's standards include beneficial uses, water-quality criteria, cultural significance, and anti-degradation requirements.

The distinction between High-Quality Water and Outstanding Resource Water matters because it concerns antidegradation, the principle that exceptionally clean waters should not be allowed to deteriorate simply because they currently exceed minimum water-quality requirements. The U.S. Environmental Protection Agency identifies Oklahoma's High-Quality Waters as Tier 2 waters, while Outstanding Resource Waters are Tier 3 waters. Oklahoma describes Outstanding Resource Waters as water having "exceptional recreational and/or ecological significance."

For the Blue River, ORW designation would therefore represent more than an honorary title. It would formally recognize it as Oklahoma's only spring-fed, undammed river, and its existing condition itself is a resource worthy of exceptional protection. That distinction matters because preventing degradation is generally more effective than attempting to restore a river after water quality and ecological conditions have been damaged.

Protecting the Blue River also means protecting the interconnected values that depend upon clean water. The river's aquatic habitat, wildlife, recreation, scenic character, cultural significance, and the experiences of people who use and rely on it all ultimately depend on maintaining water quality.

Designating the Blue River as an Outstanding Resource Water would establish a clear public policy: **an exceptional Oklahoma river should not have to become degraded before stronger protection**

is justified. ORW status would recognize what is valuable today and place greater emphasis on sustaining it for tomorrow.

The fundamental question is, therefore, whether the Blue River should merely remain better than minimum standards or whether its exceptional qualities deserve Oklahoma's highest category of antidegradation protection. For a river of such significant ecological, recreational, and cultural importance, designation as an Outstanding Resource Water is an investment in conservation, responsible stewardship, and a long-term legacy of Oklahoma's most vital natural resource.

Sincerely,



Steven F. Roy
Board Chairman
The Advocates for Blue River Foundation of Oklahoma

APPENDIX A.4 DESIGNATED BENEFICIAL USES OF SURFACE WATERS [NEW]
Water Quality Management Basin 4, Lower Red River

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Red River from the Arkansas State Line to the Kiamichi River	410100010010	PPWS	WWAC	●	PBCR		●		
Norwood Creek	410100010050	PPWS	WWAC	●	PBCR		●		
Waterhole Creek	410100010340	PPWS	WWAC	●	PBCR		●		
Buzzard Creek	410100010450		WWAC	●	PBCR		●		
Tributary of Buzzard Creek at NW 1/4, Sec. 5, T7S, R22E, IM (Millerton Trib)	410100010456_00		HLAC	●	SBCR		●		
Garland Creek	410100010460		WWAC		PBCR				
Tributary of Garland Creek at SE 1/4, Sec. 34, T6S, R21E, IM (Valiant Creek)	410100010470		HLAC	●	SBCR		●		
Little River from the Arkansas State Line to Pine Creek Dam	410200010010, 410200010200, 410210010010, 410210020010	PPWS	CWAC	●	PBCR		●	HQW	
Rock Creek	410200010220	PPWS	CWAC	●	PBCR		●		
Mountain Fork River downstream from U.S. Hwy 70 bridge	410210040010_00	PPWS	CWAC	●	PBCR		●	HQW	
Mountain Fork River upstream from U.S. Hwy 70 bridge to Broken Bow Dam	410210040010_10, 410210040050, 410210050010	PPWS	Trout	●	PBCR		●	HQW	
Upper Mountain Fork River from Dam including Broken Bow Lake to the 600 foot elevation level	410210050010, 410210050020, 410210060010_00	PPWS	CWAC	●	PBCR		●	SWS	
Egypt Creek	410210050140	PPWS	CWAC	●	PBCR		●	SWS	
Otter Creek	410210050190	PPWS	CWAC	●	PBCR		●	SWS	
Panther Creek	410210050360	PPWS	CWAC	●	PBCR		●	ORW	

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Buffalo Creek	410210060020	PPWS	CWAC	●	PBCR		●	SWS	
Big Hudson	410210060030		CWAC		PBCR		●		
Mine Creek	410210060060		CWAC	●	PBCR		●		
Upper Mountain Fork River upstream from the 600 foot elevation level	410210060010_10	PPWS	CWAC	●	PBCR		●	ORW	Scenic River
Boktuklo Creek	410210060100	PPWS	CWAC	●	PBCR		●	ORW	
Blue Creek	410210060110	PPWS	CWAC	●	PBCR		●	ORW	
Big Eagle Creek	410210060160	PPWS	CWAC	●	PBCR		●	ORW	
Little Eagle Creek	410210060170	PPWS	CWAC	●	PBCR		●	ORW	
Dry Creek	410210060270		CWAC	●	PBCR		●		
Cucumber Creek	410210060210	PPWS	CWAC	●	PBCR		●	ORW	
Beech Creek	410210060320	PPWS	CWAC	●	PBCR		●	ORW	
Cow Creek	410210060350	PPWS	CWAC	●	PBCR		●	ORW	
Yanubbe Creek	410200010150	PPWS	CWAC	●	PBCR		●		
Tributary of Yanubbe Creek at NE 1/4, Sec. 29, T6S, R25E, IM	410200010155_00		HLAC	●	SBCR		●		
Mud Creek	410200010210	EWS	WWAC	●	SBCR		●		
Tributary of Mud Creek at SE 1/4, Sec. 31, T7S, R24E, IM	410200010218_00		HLAC	●	SBCR		●		
Yashau (Yashoo) Creek	410200010230	PPWS	CWAC	●	PBCR		●		
Lukfata Creek	410210070010	PPWS	CWAC	●	PBCR		●	HQW	
Glover River	410210080010	PPWS	CWAC	●	PBCR		●	HQW	
Cedar Creek	410210080120	PPWS	CWAC	●	PBCR		●	HQW	
Carter Creek	410210080210	PPWS	CWAC	●	PBCR		●	HQW	
Pine Creek	410210080270	PPWS	CWAC	●	PBCR		●	HQW	
West Fork	410210090070	PPWS	CWAC	●	PBCR		●	HQW	
Silver Creek	410210090100		CWAC	●	PBCR		●		
Bluff Creek	410210090160	PPWS	CWAC	●	PBCR		●	HQW	

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
East Fork	410210090010	PPWS	CWAC	●	PBCR		●	HQW	
Horse Head Creek	410210010060	PPWS	WWAC	●	PBCR		●		
Tributary of Horse Head Creek at Sec. 10, T6S, R22E, IM	410210010065_00		HLAC	●	SBCR		●		
Cypress Creek	410210010070	PPWS	CWAC	●	PBCR		●	HQW	
Little River upstream from and including Pine Creek Lake	410210020010, 410210020140, 410210020020, 410210030010	PPWS	CWAC	●	PBCR		●	HQW	
Pine Creek	410210020030	PPWS	CWAC	●	PBCR		●	HQW	
Terrapin Creek	410210020150	PPWS	CWAC	●	PBCR		●	HQW	
Houston Creek	410210020210	PPWS	CWAC	●	PBCR		●	HQW	
Caney Creek	410210020240		CWAC	●	PBCR		●		
Cloudy Creek	410210020300	PPWS	CWAC	●	PBCR		●	HQW	
Jack Creek	410210020430	PPWS	CWAC	●	PBCR		●	HQW	
Black Fork	410210030020	PPWS	CWAC	●	PBCR		●	HQW	
Red River upstream from the Kiamichi River to the Blue River	410400010010	PPWS	WWAC	●	PBCR		●		
Kiamichi River including Hugo Lake to U.S. Hwy. 271 Bridge near Clayton	410300010010, 410300020010, 410300020020, 410300030010_00	PPWS	WWAC	●	PBCR		●		
Gates Creek	410300010020, 410300010030	PPWS	CWAC	●	PBCR		●		
Lake Raymond Gary	410300010040		WWAC	●	PBCR		●		
Negro Creek	410300010060		HLAC	●	SBCR		●		
Bird Creek	410300010100	PPWS	WWAC	●	PBCR		●		
Long Creek	410300020080	PPWS	WWAC	●	PBCR		●		
North Fork	410300020060	PPWS	WWAC	●	PBCR		●		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Frazier Creek	410300020130	PPWS	CWAC	●	PBCR		●		
Rock Creek	410300020190	PPWS	CWAC	●	PBCR		●		
Cedar Creek	410300030020	PPWS	CWAC	●	PBCR		●	HQW	
Beaver Creek	410300030200	PPWS	WWAC	●	PBCR		●		
Tenmile Creek	410300030270	PPWS	WWAC	●	PBCR		●		
Buck Creek	410300030420	PPWS	WWAC	●	PBCR		●		
Clayton Lake and Watershed	410300030760, 410300030780	PPWS	WWAC	●	PBCR		●	SWS	
Kiamichi River upstream from U.S. Hwy 271 Bridge near Clayton	410300030010_10, 410300030570, 410310010010, 410310020010	PPWS	WWAC	●	PBCR		●		
Jackfork Creek including Sardis Lake	410310010020 , 410310030020, 410310030100	PPWS	WWAC	●	PBCR		●	SWS	
Buffalo Creek	410310030030	PPWS	WWAC	●	PBCR		●	SWS	
Lake Nanih Waiya	410310010050		WWAC	●	PBCR		●		
Rock Creek	410310010170	PPWS	WWAC	●	PBCR		●		
Lake Ozzie Cobb and watershed	410300020190, 410300020220		WWAC	●	PBCR		●		NLW
Carl Albert Lake and Watershed	410310010210, 410310010220	PPWS	WWAC	●	PBCR		●	SWS	
Talihina Lake and Watershed	410310010230	PPWS	WWAC	●	PBCR		●	SWS	
Pigeon Creek	410310020110	PPWS	CWAC	●	PBCR		●		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Horse Creek downstream from the borders of Sections 10 & 15, T7S, R17E, IM	410400010040_00	PPWS	WWAC	●	PBCR		●		
Horse Creek upstream from the borders of Sections 10 & 15, T7S, R17E, IM	410400010040_10		WWAC	●	SBCR		●		
Tributary of Horse Creek at NE 1/4, Sec. 4, T7S, R17E, IM	410400010045_00		HLAC	●	SBCR		●		
Unnamed tributary of Red River at SW SE SE Sec. 22, T7S, R17E, IM	410400010090_00		HLAC	●	SBCR		●		
Muddy Boggy Creek	410400010070, 410400050010, 410400050270, 410400060010	PPWS	WWAC	●	PBCR		●		
Tributary of Muddy Boggy Creek at NW 1/4, Sec. 12, T2S, R11E, IM	410400050495_00		HLAC	●	SBCR		●		
Lick Creek	410400010130	PPWS	WWAC	●	PBCR		●		
Clear Boggy Creek	410400020010, 410400030010, 410400030230, 410400040010	PPWS	WWAC	●	PBCR		●		
Mayhew Creek	410400020020		WWAC	●	PBCR		●		
Unnamed tributary to Mayhew Creek at sect. 7, T6S, R14E, IM (Boswell Creek)	410400020025_00		HLAC		SBCR		●		
Caney Creek	410400030020		WWAC	●	SBCR		●		
Delaware Creek	410400030240	PPWS	WWAC	●	PBCR		●		
Sandy Creek	410400030280	PPWS	WWAC	●	PBCR		●		
Tributary of Sandy Creek at SE 1/4, Sec. 14, T2S, R8E, IM (Wapanucka Creek)	410400030290		HLAC	●	SBCR		●		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Wide Springs Branch	410400030320	PPWS	WWAC	●	PBCR		●		
Bois D' Arc Creek	410400020160		WWAC		PBCR		●		
(Byrds) Mill Creek	410400040090	PPWS	WWAC	●	PBCR		●		
McGee Creek including McGee Creek Reservoir	410400070010, 410400070020	PPWS	WWAC	●	PBCR		●	SWS	
North Boggy Creek downstream from Atoka Reservoir	410400050410_00	PPWS	WWAC	●	PBCR		●		
Tributary of North Boggy Creek at NW1/4, Sec. 29, T1S, R12E, IM	410400050415_00		HLAC	●	SBCR		●		
North Boggy Creek upstream from and including Atoka Reservoir	410400080010, 410400080020	PPWS	WWAC	●	PBCR		●	SWS	
Sub Penitentiary Lake (Blue Stem)	410400080060	PPWS	WWAC	●	PBCR		●		
Kiowa City Lake on trib to Buck Creek	410400080200	PPWS	WWAC	●	PBCR		●		
Coal Creek	410400050540	PPWS	WWAC	●	PBCR		●		
Tributary of Brier Creek at Sec. 35, T1N, R10E, IM	410400050585_00		HLAC	●	SBCR		●		
Caney Creek	410400060020	PPWS	WWAC	●	PBCR		●		
Coon Creek	410400060030	PPWS	WWAC	●	PBCR		●		
Coalgate Reservoir and Watershed	410400060030, 410400060040, 410400060050	PPWS	WWAC	●	PBCR		●	SWS	
Caney Boggy Creek	410400060120	PPWS	WWAC	●	PBCR		●		

Waterbody Name and Sequence	Waterbody ID Numbers	Water Supply	F&W Prop	Ag	Rec	Nav	Aes	Limitations	Remarks
Sandy Creek	410400030280	PPWS	WWAC	●	PBCR		●		
Little Sandy Creek	410400060270		HLAC	●	SBCR		●		
Town Branch	410400060310_00		HLAC	●	SBCR		●		
Whitegrass Creek	410400010210	PPWS	WWAC	●	PBCR		●		
Blue River downstream from the State Hwy. 48A Bridge	410600010010, 410600010290, 410600020010	PPWS	WWAC	●	PBCR		●		
Tributary of Bokchito Creek at Sec. 22, T6S, R11E, IM	410600010095		HLAC	●	SBCR		●		
Caddo Creek	410600010140		WWAC	●	PBCR		●		
Mineral Bayou	410600010300	EWS	WWAC	●	PBCR		●		
Little Blue River	410600010340	PPWS	WWAC	●	PBCR		●		
Sandy Creek	410600010250	PPWS	WWAC	●	PBCR		●		
Blue River upstream from State Hwy. 48A Bridge to State Hwy. 7 Bridge	410600020010_10	PPWS	Trout	●	PBCR		●	~~HQW~~ ORW	
Blue River upstream from State Hwy. 7 Bridge	410700020010_20	PPWS	CWAC	●	PBCR		●	~~HQW~~ ORW	
Red River upstream from the Blue River to Lake Texoma Dam	410700000010	PPWS	WWAC	●	PBCR		●		
Island Bayou	410700000040	EWS	WWAC	●	SBCR		●		
Sandy Creek	410700000250	PPWS	WWAC	●	PBCR		●		
Tributary of Sandy Creek at Sec. 20, T8S, R8E, IM	410700000250_00		HLAC	●	SBCR		●		