Appendix G – Response to Public Comments

Comments were received from:

(a) Oklahoma DEQ Staff (DEQ)
(b) Jahna Hill, City of Tahlequah, Stormwater (COTS)
(c) Liz Bergey, Oklahoma Biological Survey (OBS)
(d) Chickasaw Nation (CN)
(e) Marilyn Masterson (MM)
(f) John Dawson (JD)
(g) Fred Storer (FS)

This key is used in the summary of comments below to identify the commenter. DEQ responses to comments are indicated in italics.

1) (DEQ) During the public comment period, DEQ staff found the following waterbody assessments needing corrections:

   OK520700010140_00
   OK120400020120_00
   OK121300010035_00
   OK310800010055_00
   OK311200000160_00
   OK311500010055_00

   These waterbodies should be changed from "Not Assessed" or "Insufficient" to "Fully Supporting" for the Emergency Water Supply (EWS) beneficial use. According to Ch. 45 WQS "During emergencies, those waters designated Emergency Public and Private Water Supplies may be put to use".

   DEQ Response: *These changes have been made to the final version of the 2018 Integrated Report.*

2) (COTS) Benthic macroinvertebrate bioassessments was listed as a new impairment for Tahlequah Creek, Town Branch (OK121700030040_00) on the draft version of the 2018 303(d) list. City of Tahlequah requested benthic macroinvertebrate data from the assessing agency to confirm that they agree with this listing.

   DEQ Response: *The assessing agency reported an error in the initial assessment and confirmed that the listing for benthic macroinvertebrates should be removed since the assessed data does not actually show impairment for this parameter. This has been corrected in the final version of the 2018 Integrated Report.*

3) (OBS) I found very little evidence of metals testing in Oklahoma waters. Metals were not listed among the regular tests run, despite having Superfund sites in Oklahoma with high metals concentrations (e.g., Tar Creek). Indeed, Tar Creek lists only Pb as a pollutant - are Zn, Cd and other metals not tested? Mercury was added as a pollutant to several sites in 2018 - with unknown sources. Mercury testing should be a regular test and, where found, effort should be made to find sources and if possible try to mitigate these sources.

DEQ Response: *The Oklahoma Water Resources Board (OWRB) conducts metals testing at all of their river and stream sampling sites. This includes their 84 BUMP sites and their biological monitoring sites. The coverage is for a baseline suite of both dissolved and total recoverable metals, including mercury. The frequency of these samples is typically 4-6 times a year for the BUMP sites, depending on funding, and every visit for the biological sites. Efforts have been made where possible to find and mitigate sources of mercury. These include DEQ's Mercury Program.*

4) (OBS) Oklahoma is mostly a prairie state and most macroinvertebrate water quality indices (e.g., anything involving EPT) were developed in rocky, mountainous streams. EPT and other metrics should not be used blindly because sites that normally have high sand and silt (most OK streams) can naturally have high oligochaete and chironomid densities, even when water quality is high.

DEQ Response*: Samples are analyzed using an Index of Biotic Integrity (IBI) approach. Ecoregion reference metric scores (available from OWRB or OCC Water Quality Division offices) are consulted as necessary to facilitate the scoring process. Total IBI scores are compared to reference IBI scores for the appropriate index-habitat and ecoregion to determine final macroinvertebrate support status.*

5) (OBS) Adding oxygen to the hypolimnetic zone of Lake Thunderbird is (attempting) to treat the symptoms, and does not address the problem. Better management of nutrients within the watershed, including having protected riparian zones, is needed to actually fix the problem.

DEQ Response*: A TMDL for Lake Thunderbird was approved in 2013. The purpose of this TMDL is to establish waste load allocations (WLA) and load allocations (LA) determined to be necessary for reducing turbidity and chlorophyll-a levels and maintaining sufficient oxygen levels in the lake to attain water quality standards. DEQ collaborates with other state agencies and local governments to target available funding and technical assistance to support implementation of pollution controls and management measures. Various water quality management programs and funding sources are utilized so that the pollutant reductions required by the TMDL (https://www.epa.gov/tmdl/lake-thunderbird-tmdl) can be achieved and water quality can be restored to maintain designated uses.*

6) (OBS) This report, like previous reports, demonstrates the overall poor water quality in Oklahoma - and the poor quality of land management in the state.

***DEQ Response**: The Integrated Report is used to identify surface waters in the State that need to be improved. Efforts, such as education and implementing conservation practice systems (CPs), continue to take place with the goal of improving water quality in Oklahoma. Please see EPA's website (https://www.epa.gov/nps/success-stories-about-restoring-water-bodies-impaired-nonpoint-source-pollution#ok) for more information on success stories.*

7) (OBS) 'Drought' as a water quality issue may be confusing 2 issues - water removed from streams and rivers that makes them drought-susceptible and actual drought. These 2 need to be separated. Water removal may be the actual cause.

***DEQ Response**: This topic has been discussed by the State water quality management agencies and is being considered for evaluation in future reports.*

8) (OBS) I looked briefly at the 'success stories' site. I was pleased to read some of the accomplishments and the strong efforts needed. Keep it up!

***DEQ Response**: DEQ appreciates your comments.*

9) (CN) The Chickasaw Nation makes the following recommendations to the Oklahoma Department of Environmental Quality regarding the Water Quality in Oklahoma 2018 Integrated Report:

a. The ODEQ and Chickasaw environmental programs work together to identify opportunities for cooperation regarding water monitoring priorities. Sharing specific locations will ensure these sites do not overlap and will allow the best use of available resources.

b. The Chickasaw environmental programs be part of the continuing planning process to allow us to coordinate when specific watersheds are being monitored, collecting methods are comparable and planning to correct any deficiencies are coordinated.

***DEQ Response**: DEQ appreciates your recommendations and willingness to collaborate with our State agencies to achieve our water quality goals. We have shared your recommendations with the State water quality monitoring agencies. DEQ and the other State agencies look forward to working with the Chickasaw Nation to improve water quality in the State of Oklahoma.*

10) (MM) I am very sad to find the Illinois Watershed still not meeting water quality standards as evidenced in the report. I grew up near the river. The pristine waters gave joy to my life from the time I was a small child camping there with my Grandparents. It is tragic that the river has

not been protected and is in the state it is in now. Measures must be taken to restore and protect it so future generations can have the opportunity I enjoyed. It is an economic tourist add for the area too.

***DEQ Response**: Thank you for expressing your concern for the water quality of the Illinois River. Information on restoration efforts in the Illinois River Watershed can be found on EPA's website (https://www.epa.gov/nps/success-stories-about-restoring-water-bodies-impaired-nonpoint-source-pollution#ok).*

11) (JD) I have been attempting to gain an understanding of the water quality in the Arkansas River. I have been stifled continuously. The mayor of my city, Tulsa, has promoted an idea of a future where water recreation will happen in the river near where I live. I see a significant concern in the facts that testing from above and below the section of river adjacent to my city have tested to show that pollutants exceed the permissible limits for primary body contact. You must see my concern. I feel like I am in a hallway and both ends are on fire and nobody will sign the report saying we are in danger. What is the process for continuing the testing so that we have a clear picture with regards to water quality in the Arkansas River at Tulsa?

***DEQ Response**: Currently, the City of Tulsa only monitors the Arkansas River for compliance with its OPDES permits. To the best of our knowledge, the City of Tulsa has no immediate plans to conduct continuous monitoring; however, implementation of a continuous monitoring program has been discussed. DEQ will engage with the State water quality monitoring agencies and the City of Tulsa on PBCR monitoring in the Arkansas River and recommends you continue engagement with the City on this issue.*

12) (FS) The Reference section (Page 83) does not include "The US Environmental Protection Agency (EPA) issued guidance (EPA, 2005)".

***DEQ Response**: A reference has been added to the report.*

13) (FS) "The Integrated Report will also provide water resources managers and citizens with detailed information regarding the following:

a) Delineation of water quality assessment units providing geographic display of assessment results
b) Progress toward achieving comprehensive assessment of all waters
c) Water quality standards attainment status
d) Methods used to assess Water Quality Standards attainment status
e) Additional monitoring needs and schedules
f) Pollutants and watersheds requiring Total Maximum Daily Loads (TMDLs)
g) Pollutants and watersheds requiring alternative pollution control measures
h) Management strategies (including TMDLs) under development to attain Water Quality Standards
i) TMDL development schedules"

It is not clear where and how the Integrated Report incorporates this information. My interest includes; geographic display, additional monitoring needs and schedules, alternative pollution control measures, management strategies, and TMDL development schedules.

***DEQ Response**: Responses to subjects a-i above are addressed below respectively:*

a) *Delineation of water quality assessment units providing geographic display of assessment results is provided in the Oklahoma DEQ Data Viewer (https://gis.deq.ok.gov/maps/).*
b) *Information on progress toward achieving comprehensive assessment of all waters can be found where the report discusses monitoring activities of the agencies involved in collecting data throughout Oklahoma. Please see the summary of activities for each monitoring agency.*
c) *Water quality standards attainment status is detailed in Appendix B and Appendix C of the report.*
d) *The methods used to determine attainment status are outlined in the Assessment Methodology section of the report.*
e) *Monitoring needs and scheduling are discussed under monitoring activities for each agency.*
f) *Waterbodies with pollutant impairments requiring TMDLs are listed in Appendix C of the report.*
g) *At this time, there are no waterbodies with a scheduled date for receiving alternative pollution control measures.*
h) *Information on management strategies can be found in the Background section.*
i) *Proposed TMDL development schedules are included in Appendix C.*

14) (FS) *"The methods used to develop the 2018 Integrated Report (and subsequent Reports) are described in the Continuing Planning Process (CPP)."* Please provide a copy of the CPP.

***DEQ Response**: A link to the CPP has been added to the final version of the 2018 Integrated Report and can also be found just below the Draft 2018 Integrated Report on the DEQ website at https://www.deq.ok.gov/water-quality-division/watershed-planning/integrated-report/.*

15) (FS) **"Category 3 - Insufficient or no data and information to determine if any designated use is attained.** Waterbodies are listed in this category when the data or information to support an attainment determination for any use is not available, consistent with the requirements of the CPP. To assess the attainment status of these waterbodies, supplementary data and information shall be obtained, or monitoring shall be scheduled as needed."

What are the "requirements of the CPP"? Monitoring of Category 3 waterbodies which are tributaries to the Arkansas River in Tulsa County are needed.

***DEQ Response**: The CPP provides information regarding the quantity and quality of data required to make an assessment determination. Assignment of a waterbody to Category 3 means that current data does not meet the minimum data requirements for an assessment decision to be made.*

16) (FS) "Category 5 ..... A schedule for the establishment of TMDLs for all waters in Category 5 shall be submitted. ..." Please provide the schedule for the Arkansas River and Category 5 waterbodies in Tulsa County.

***DEQ Response**: Proposed TMDL schedules for all 303(d) listed waterbodies are located in Appendix C. The "TMDL Priority" column provides a priority ranking from 1 to 4 for each waterbody. A table associating the ranking with a proposed TMDL date is located at the end of Appendix C.*

17) (FS) "The CPP will provide a companion to the 2018 Integrated Report. It is anticipated that this will be a living document and will be modified, as appropriate, to accompany subsequent Integrated Reports." Again, please provide a copy of, or access to, the CPP.

***DEQ Response**: A link to the CPP has been added to the final version of the 2018 Integrated Report and can also be found just below the Draft 2018 Integrated Report on the DEQ website at https://www.deq.ok.gov/water-quality-division/watershed-planning/integrated-report/.*

18) (FS) **"Superfund Program"**

The Sand Springs Petrochemical Complex is the only site listed in Tulsa County. Much more important are the two HollyFrontier RCRA permits administered by ODEQ, USEPA ID OKD990750960 (east refinery) and EPA ID OKD058078775 (west refinery). The ground water which flows under the refineries to the river is contaminated by a hundred years of spills and direct burial of chemicals. If a complete description of the impact on water quality is not available in ODEQ's records, ODEQ should require HollyFrontier to produce it to determine if beneficial uses are compromised.

RCRA appears in Table 29, Page 77.

***DEQ Response**: Monitoring and assessment is an in-depth and intensive process involving work plans, QA/QC procedures, etc. and should be carried out by the State agencies in Oklahoma that conduct monitoring activities on a regular basis and are experienced with all aspects of these procedures. Your concerns will be relayed to the appropriate State water quality monitoring agencies.*

19) (FS) ***Surface Water Assessment***

What is "PHABSIM"? What is "State 401 Certification"?

***DEQ Response**: PHABISM is a modeling software. More information about 401 certification can be found on DEQ's website (https://www.deq.ok.gov/water-quality-division/watershed-planning/water-quality-certification/).*

20) (FS) "A Pollutant Priority Score was also developed and used based on a pairwise comparison matrix rank of all pollutant(s) and then calculating the mean of the values for those pollutants causing impairments within each watershed. The presence of protected waters or EQIP local emphasis areas were also used to evaluate watershed vulnerability."

What is a "pairwise comparison"? What is EQIP?

DEQ Response*: A pairwise comparison matrix is a tool used to rank pollutants on a scale of importance. More information about EQIP can be found on the NRCS website (https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/eqip/).*

21) (FS) **"Overview of State Groundwater Protection Programs**
Resource Conservation and Recovery Act (RCRA) Primacy State RCRA Program incorporating more stringent requirements than RCRA Primacy"

RCRA is included in Table 29, it should also be included along with Superfund.

DEQ Response*: DEQ appreciates your comments and will take this into consideration.*

22) (FS) **Appendix A -** Please provide a breakdown of basin 1, 120420-01, like the brake down provided for basin 3.

DEQ Response*: The breakdown for basin 3 was provided to explain the process of how Oklahoma's WBID numbers were developed. We do not have this type of breakdown available for basin 1. If you are interested in additional information, DEQ Watershed Planning staff can provide assistance.*

23) (FS) **Appendix B**
The Arkansas River from Keystone Dam downstream to the mouth of Berryhill Creek is shown as not supporting Primary Body Contact Recreation (PBCR). The Arkansas River downstream of I-44 for the next 16.74 miles is shown as not supporting PBCR. The Arkansas River between Berryhill Creek and I-44 is shown as lacking sufficient information to determine if it supports PBCR. Given the City of Tulsa's intention to encourage recreational uses of the River the PBCR status of 7.32 miles in the heart of Tulsa should not remain undetermined.

Insufficient information for the beneficial use Fish Consumption in the 7.32 miles of the River should be resolved in the context of the RCRA permit administered by ODEQ.

DEQ Response*: DEQ does not perform ambient water quality monitoring. As discussed in the response to Comment 11 above, DEQ will engage with the State water quality monitoring agencies and the City of Tulsa on PBCR monitoring in the Arkansas River and recommends you continue engagement with the City on this issue. Your RCRA concerns will be relayed to the appropriate section at DEQ.*

24) (FS) **Appendix C**

Arkansas River TMDL 35669 (11/18/2008) and TMDL 42564 (9/27/2012) are no longer useful. New TMDLs (fishable and swimmable) should be scheduled and expedited which include the nonpoint source contributions made by all the tributaries, MS4 permits, and the two RCRA sources. Berryhill Creek has 700 septic tanks and an unpermitted point source (Berryhill Public Schools). Hundreds, if not thousands, of Canada Geese are now resident in the watershed.

DEQ Response*: The existing TMDLs for the Arkansas River (35669 & 42564) are still in effect. Water Quality in the Arkansas River has not experienced substantial change since the TMDLs were approved, except for segment OK120400010260_00, which has been removed from the 303(d) list. The TMDL for segment OK120400010260_00 remains in effect to provide guidance for the segment to continue meeting water quality standards. The completed TMDLs include point sources (MS4s and WWTP) and nonpoint sources (background, wildlife, septic tanks, etc.) in the TMDL calculations (Please see TMDL Section 5). Wasteload Allocations (WLA) were given to point sources and Load Allocations (LA) were given to nonpoint sources contributing to pollution in the waterbody. It is possible that a new or revised TMDL for these waterbodies may be completed at a future date, but due to resource constraints, no new or revised TMDL is planned at this time.*