REGION 6 EXECUTIVE SUMMARY

TOPIC: Illinois River Watershed Modeling Project

DATE: March 6, 2018 CONTACT: Taimur Shaikh, 214-665-7181

PURPOSE/ACTION NEEDED: Informational

BACKGROUND:
EPA Region 6 has developed a robust, scientifically defensible water quality model of the Illinois River Watershed (IRW) in northeast Oklahoma and northwest Arkansas. States, tribes, and local stakeholders have been engaged throughout the project. The modeling effort relies on two highly specialized computer models – a watershed and lake model – and is designed to reproduce conditions within the IRW. EPA previously released the models to the public on October 1, 2015 and provided modeling training to the Oklahoma and Arkansas principals from October 27 – November 6, 2015. Since then, EPA has continued to work closely with Arkansas and Oklahoma Agencies as well as with the Cherokee Nation to complete the calibration and validation of the watershed model. Concurrently, over the last two years, an Arkansas-Oklahoma Joint Committee commissioned a study to evaluate the Oklahoma Scenic River Total Phosphorus Standard. In December, 2016, the study recommended a rolling six-month average phosphorus concentration not to exceed 0.035 mg/L. For the recommendation to take effect, it would need to be approved as an Oklahoma Water Quality Standard (WQS). The recommendation is similar in magnitude to the current rolling 30-day average "shall not exceed" 0.037 mg/L WQS.

CURRENT STATUS:
In the 2016-2017, EPA convened a total of six in-person Technical Workgroup Meetings with the expressed purpose of refining the models and garnering the support of the state and tribal agencies. The subsequent output of the meetings and associated calls has been calibrated watershed and lake models which can be used to evaluate load reduction scenarios. EPA is working with Arkansas and Oklahoma to assist in briefing their respective management and intends to share the models and supporting documentation with the States to facilitate water quality improvements in the watershed through various regulatory and/or non-regulatory means.

ENVIRONMENTAL/PUBLIC HEALTH CONCERNS:
- Oklahoma's Scenic Rivers have been provided extra protection to preserve their high quality and unique characteristics.
- Generally, sources of phosphorous in freshwater include runoff from urban development, agricultural operations, soil and stream bank erosion, and wastewater and industrial discharges.
- The modeling effort can help identify potential pollution control measures designed to improve water quality in the IRW watershed by reducing phosphorus from sources in both states.

REGULATORY/LEGAL REQUIREMENTS:
- The Clean Water Act (CWA) and its implementing regulations require that an upstream state's water quality standards be protective of downstream state water quality standards.
- NPDES regulations prohibit pollutant discharges which may cause or contribute to an in-stream excursion above water quality criteria and also require that permit effluent limits must be consistent with the assumptions and requirements of any approved waste load allocation (WLA).

COMMUNITY CONCERNS:
- Historically, Arkansas has expressed concern that Oklahoma's current phosphorus criterion for Scenic Rivers is overly stringent; while Oklahoma has maintained that it is appropriately protective of

designated uses and the Scenic status applicable these waters.

- Point source dischargers in the IRW watershed are concerned that establishment of a total maximum daily load (TMDL) will require expensive controls to meet waste load allocations for nutrients.
- Non-point sources in the IRW watershed are concerned that the establishment of a TMDL may provide pressure to accomplish non-regulatory load reductions.