ILLINOIS RIVER WATERSHED MODELING

QUESTION: Why is EPA developing water quality models for Lake Tenkiller in Oklahoma and the Upper Illinois River Watershed in northwest Arkansas and northeast Oklahoma?

ANSWER:

- The EPA is developing water quality models to support ongoing efforts by the States of Arkansas and Oklahoma and the Cherokee Nation to address water quality impairments in the Illinois River Watershed and Lake Tenkiller.
- EPA will provide final versions of the water quality models to our state and Tribal partners, along with extensive text documentation, to support their efforts to reduce the impact of nutrients in the Illinois River Watershed and Lake Tenkiller.
- This effort exemplifies how the EPA and the states can work together to meet their CWA requirements even when challenges cross state lines.

BACKGROUND:

- The EPA's efforts to develop two water quality models, one for the Illinois River Watershed Basin and another for Lake Tenkiller, began in late 2009.
- In cooperation with the Cherokee Nation and the States of Arkansas and Oklahoma, the EPA Region 6 developed draft water quality models to address nutrient (especially phosphorus) impairments in the Illinois River Watershed and Lake Tenkiller. Portions of the river in both states are included on the states' Clean Water Act Section 303(d) lists of impaired waters. Lake Tenkiller is listed as impaired by the State of Oklahoma.
- Between April and November of 2016, Region 6 convened a total of six Technical Workgroup Meetings with state and tribal representatives to refine draft versions of the models. Oklahoma and Arkansas provided detailed comments on the modeling efforts.
- Region 6 revised the draft models to improve their calibrations in response to state and Tribal stakeholder comments, and has built broad consensus among the regulatory partners in both Oklahoma and Arkansas that the models are ready to be used for evaluating water quality restoration approaches.
- Having revised earlier versions of the models to resolve technical issues raised by the tribe and the states, EPA and our state and Tribal partners consider the models ready for review by external stakeholders, including municipalities, industry, and environmental interest groups. Once stakeholder comments are received, EPA will work with our state and Tribal partners to evaluate the comments and effect any necessary changes to the models.
- Phosphorus levels in the Illinois River are impacted by municipal discharges and nonpoint sources (e.g., runoff from poultry litter application sites). Downstream impacts to Lake Tenkiller are reflected by high chlorophyll-*a* and low dissolved oxygen levels in the water, which result from nutrients including phosphorus.
- In August of 2016, members of the Arkansas and Oklahoma Congressional Delegations expressed interest in the EPA's modeling efforts on behalf of their constituents. Responses were provided in September and November of 2016.
- Since the beginning of the project, the EPA has expended about $1.5M. The EPA has committed approximately 0.5 FTE to overseeing the project.

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