

Lake Thunderbird provides drinking water to the cities of Norman, Del City and Midwest City in central Oklahoma. A previous seasonal monitoring effort identified 40 different emerging contaminants in Lake Thunderbird, including perfluorooctane sulfonic acid (PFOS), pesticides, pharmaceutical and personal care products, and hormones. A number of activities are currently underway to address emerging contaminants in Lake Thunderbird:

- The City of Norman is currently evaluating pilot treatment projects for removing emerging contaminants from its Water Reclamation Facility effluent and potential indirect potable reuse.
- The University of Oklahoma Center for Restoration of Ecosystems and Watersheds is examining treatment of the Norman Water Reclamation Facility effluent through mesocosm wetlands of two different designs: free water surface and subsurface flow.

### Emerging

#### Contaminants:

*PFOS, pesticides, pharmaceutical and personal care products, and hormones*

#### Project Type:

*Nonpoint Source/Stormwater Assessment*

The Central Oklahoma Master Conservancy District is currently collaborating with a potential project partner to study constructed wetland designs and locations for treating stormwater and nonpoint source pollution, including the potential for treating emerging contaminants. To better assess the emerging contaminants in Lake Thunderbird and treatment options, the Central Oklahoma Master Conservancy District proposes:

- Year 1
  - Additional monitoring of emerging contaminants within Lake Thunderbird and its watershed to better identify sources, concentrations, and seasonality.
  - Evaluating current efforts in the watershed and identify opportunities for complementary evaluations and/or projects.
- Years 2 through 5 possibilities
  - Research and development to inform current efforts and future project plans for treatment.
  - Developing a project proposal and plan for pilot and/or full-scale treatment projects.

The information from these efforts will help guide treatment options for removing emerging contaminants from multiple sources prior to discharging into Lake Thunderbird. CWSRF emerging contaminants funds are being sought to support the above activities and to better leverage other federal and local funding for evaluating treatment options.

### Eligibilities:

Per Sections 603(c)(2) and 603(c)(5) of the Clean Water Act (CWA), projects that implement a state's nonpoint source management program plan and measures to manage, reduce, treat, or recapture stormwater or subsurface drainage are CWSRF eligible projects. There are no point source discharges into Lake Thunderbird, and the proposed project is to evaluate and potentially treat the stormwater and diffuse sources of pollution feeding the Lake Thunderbird tributaries.

To be eligible for the CWSRF emerging contaminants funds:

1. The presence of an emerging contaminant(s) needs to be confirmed, which the project has identified 40 different emerging contaminants in the lake previously.
2. A capital project needs to be identified. While no commitment has been made—at this point—to construct a capital project, two potential types have been discussed: (1) one or more pilot projects to assess treatment capability, and/or (2) one or more full-scale treatment wetlands.

**For more information on these topics, please visit our website.**

CWSRF: <https://www.epa.gov/cwsrf> | PFAS: <https://www.epa.gov/pfas>

## CENTRAL OKLAHOMA MASTER CONSERVANCY DISTRICT LAKE THUNDERBIRD EMERGING CONTAMINANTS ASSESSMENT PROJECT

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3. Monitoring proposed as part of a project needs to be integral to capital project development. The proposed emerging contaminants monitoring is to understand the concentration and occurrence of the emerging contaminants to properly design and construct the wetlands.

All of the above make the proposed project, including monitoring and assessment, eligible for CWSRF emerging contaminants funds.