



Department of  
**Environment &  
Conservation**

# TN Plant Optimization Program September 8, 2021

# Tennessee Plant Optimization Program (TNPOP)

- TN POP is a **free program**
- **Energy savings** at drinking water and wastewater treatment plants
- Wastewater treatment plants can also reduce **nutrient discharge** through biological processes by controlling aeration of the treatment tanks.
- Using **low-and-no-cost** measures.



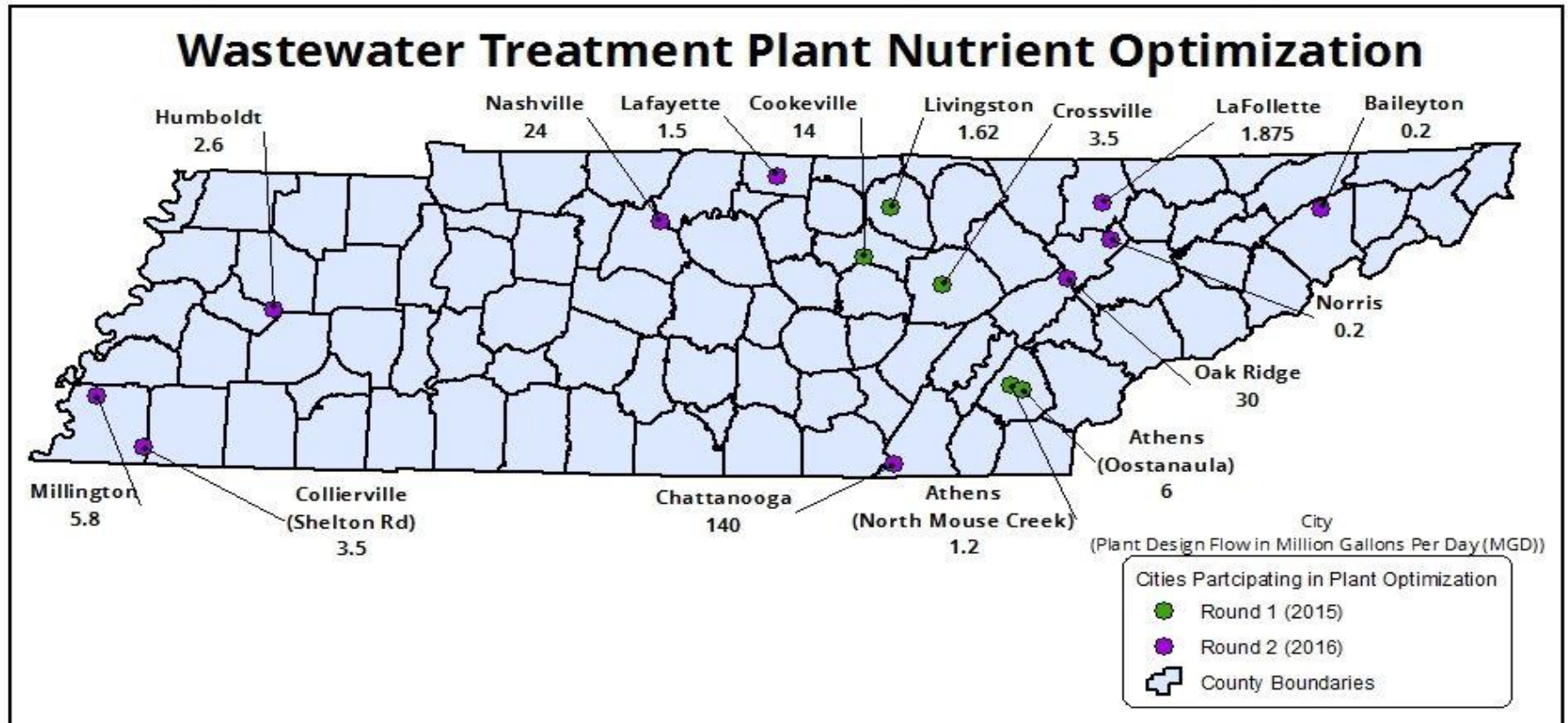
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# Plant Optimization



# Results

- **Participating plants reduced nutrient discharge by an average of 40%**
- **Participating facilities saved an average of almost 20% on annual energy costs**
- **Opportunities for technical assistance, a listserv for peer-to-peer mentoring, and online courses**
- **Leverage savings for facility upgrades**

# What we learned

While significant optimization opportunities exist in most wastewater plants, without the **commitment from the facility operators** and full support of the **department manager** we are unlikely to see results.

- Change to daily routine
- Manual aeration control
- Low BOD & high I/I
- Controls for recycle pumps
- Flexibility in tankage, pumping, and plumbing
- Operator skills and knowledge
- Informed process controls
- Operations graduated with flow and loading
- Instant lab analysis results
- **Informed regulatory oversight**





**Thank you!**  
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