

# Ramping Up Environmental Infrastructure

ECOS Waste Committee Vice Chair Scott Thompson, Executive Director,  
Oklahoma Department of Environmental Quality

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# Water Loss Economic Impact

■ Since 2015, the Water Quality Division of the Oklahoma Department of Environmental Quality (DEQ) has:

Performed 211 free water loss audits for 165 unique water systems across the state

Identified 8.564 billion gallons of water loss in total from the water loss audits

The combined water loss could supply a population of over 286,000 people per year – a population equivalent to the size of Cleveland County.

**\$11.23M** Water systems spend more than \$11.23 million to treat water that does not reach a water meter.

## TYPES OF WATER LOSS

### Apparent water loss

Represents non-revenue water resulting from water theft, billing errors and water meters registering inaccurate water usage. Among the water supplied by the water systems audited by DEQ, 783 million gallons (2.2%) is classified as apparent water loss.

### Real water losses

Represents physical water losses through leaks and are a much larger percentage of the supplied water. More than one-in-five gallons (21.9% or 7.748 billion gallons) is lost to water leaks in the water systems that DEQ has audited.



## THE COSTS OF WATER LOSS

If two-thirds of the connections in the audited area are active household connections, there would be 584,000 Oklahomans depending on water from these systems.

Real and Apparent Losses by Region

Region	Annual Real Loss Variable Production Costs	Annual Apparent Loss Cost (incl. water)	Total Loss Costs
Eastern Oklahoma	\$6,702,976	\$1,897,277	\$8,600,253
Central/DEQ Region	\$3,528,278	\$994,800	\$4,523,078
Tulsa Region	\$2,087,680	\$1,323,824	\$3,411,504
Western Oklahoma	\$891,967	\$891,261	\$1,783,228
<b>Grand Total</b>	<b>\$11,236,309</b>	<b>\$5,044,661</b>	<b>\$16,270,969</b>



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## WATER IS A BUSINESS COST

**165 WATER DISTRICTS** There are 18,443 business establishments in these districts employing 249,692 people with annual payroll totaling \$12.929 billion.

Business Establishments, Jobs and Payroll by Region

Region	Water Systems	Number of Employees	Number of Jobs	Payroll (in billions \$)
Eastern Oklahoma	82	6,338	61,968	\$2,281
Central/DEQ Region	78	6,338	61,228	\$2,912
Tulsa Region	28	5,254	60,328	\$2,686
Western Oklahoma	15	3,317	62,567	\$5,128
<b>Grand Total</b>	<b>165</b>	<b>18,443</b>	<b>249,692</b>	<b>\$12,929</b>

When water districts address water losses identified through the Water Loss Audits, there is a substantial economic impact on businesses operating in the region

- Gross Domestic Product (GDP) impact: \$16.7 million average/year through 2025
- Total output (value of sales in the economy): \$30.6 million (about 80% higher than GDP)
- Disposable personal income impact: \$12.1 million/year through 2025

## RETURN ON INVESTMENT

The state invests \$491,471/year in the Water Quality Division's work to measure and identify water losses in water systems. This budget allows DEQ to offer the water loss audits at no cost to Oklahoma's water systems.

Given the Water Quality Division's budget for 2015-2021, the 2021 ROI for the Division's work would be \$5.64/\$1 in value-added GDP once losses are corrected by water systems.



## CONCLUSION



Across the state of Oklahoma, there are 1,392 water systems.



The Water Quality Division at DEQ has performed water loss audits for 11.9% of those.



DEQ found water losses totaling 8.564 billion gallons of water.

When addressed, the apparent water losses would provide \$5.044 million/year in additional revenue to these 165 water systems, and the \$11.226 million/year in real water losses are values that could be saved by fixing leaks in the systems. The impacts from addressing these water losses are meaningful and average \$16.730 million in value-added activity per year between 2021 and 2025.



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Link to Oklahoma DEQ  
Water Loss Audit & Leak  
Detection Program Full Report

<https://www.deq.ok.gov/wp-content/uploads/deqmainresources/DEQ-Full-Report-Final.pdf>