Ramping Up Environmental Infrastructure

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

2021 ECOS Fall Meeting September 8, 2021

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.

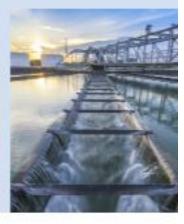
TYPES OF WATER LOSS

Apparent water loss

Represents non-revenue water resulting from water theft, billing errors and water water usage. Among the water supplied by the water systems. audited by DEO, 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 Q19% 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

	Securit Real Lease Variable Production Code	Small Assertion Collydatomics)	Table Land Comm	
Sadari Olistania	\$4,124,974	81,861277	\$6,609,231	
ConsertAtc Region	\$1320,01	\$994,700	\$4,472,676	
Tuhua Bergilan	\$2,097,488	\$1,021,024 \$1,41,311		
Steelpen Calabona	\$80,007	\$899.267	\$179,628	
Grand Total	\$11,226,208	\$5,044,661	\$16,270,869	



Brandon Bowman, Program Manager **DEG Capacity Development Section** 405-702-8270

brandon.bowmunitdeg.ok.gov

Llevel Kirk, Division Director DEG Office of External Affairs 405-702-7105 Boyd kirk ifdeg ak gov

WATER IS A BUSINESS COST

165 WATER There are 18,443 business estabusamenta 249,692 people with annual payroil totaling \$12,929 billion. There are 18,443 business establishments in these districts employing

Business Extablishments, Jobs and Payroll by Region.

-	Make Systems	Indicate in	Number of John	trette
Enters Oranona	10	5,000	90,908	\$2.28
CertarORC Region	76	9,000	94,228	\$2.92
Take Region		5.254	60,09	\$2.000
Messer Chistoria	-80	1317	62,947	\$6,720
Grand Total	165	12,442	349,693	\$12.929

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): \$30.5 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.



DEO 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 195 water systems, and the \$11.226 million/year in real water losses are values that could be saved by fixing lenks 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



Brandon Bowmert, Program Manager **DEG Capacity Development Section** 405-702-8270 brandon bowman fideg ok gov

Lloyd Kirk, Division Director DEG Office of External Affairs 405-702-7105 Boyd.kirkrideq.ak.gov

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