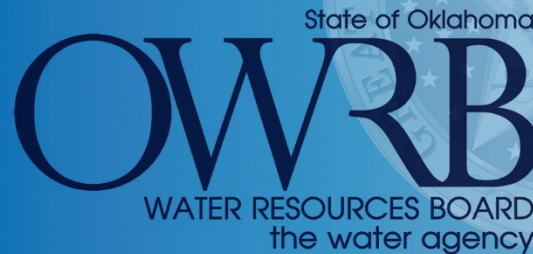


# OKLAHOMA STRATEGIC ALLIANCE 2020 RURAL WATER IMPACT



JR Welch  
*Chief Operations Officer*  
ORWA

Brandon Bowman  
*Manager, Capacity Development*  
ODEQ

# Formation of the Oklahoma Strategic Alliance

Ratified by Governor Stitt on September 3, 2019.

Members:

- Office of the Secretary of Energy and Environment
- Department of Environmental Quality
- Water Resources Board
- Oklahoma Rural Water Association

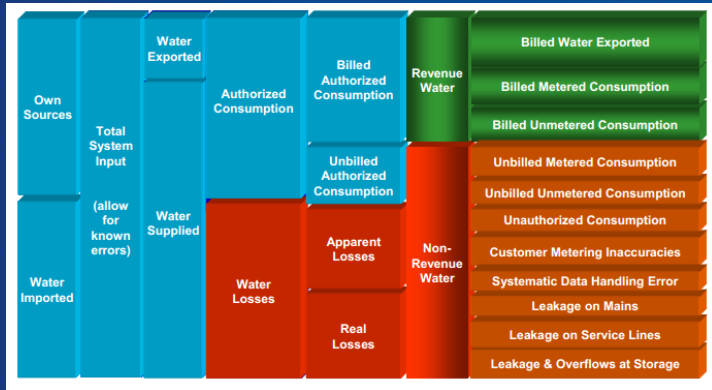


*Committed to work together and combine resources to help Oklahoma's rural and small community water systems update infrastructure, improve management and operations, and achieve sustainability.*

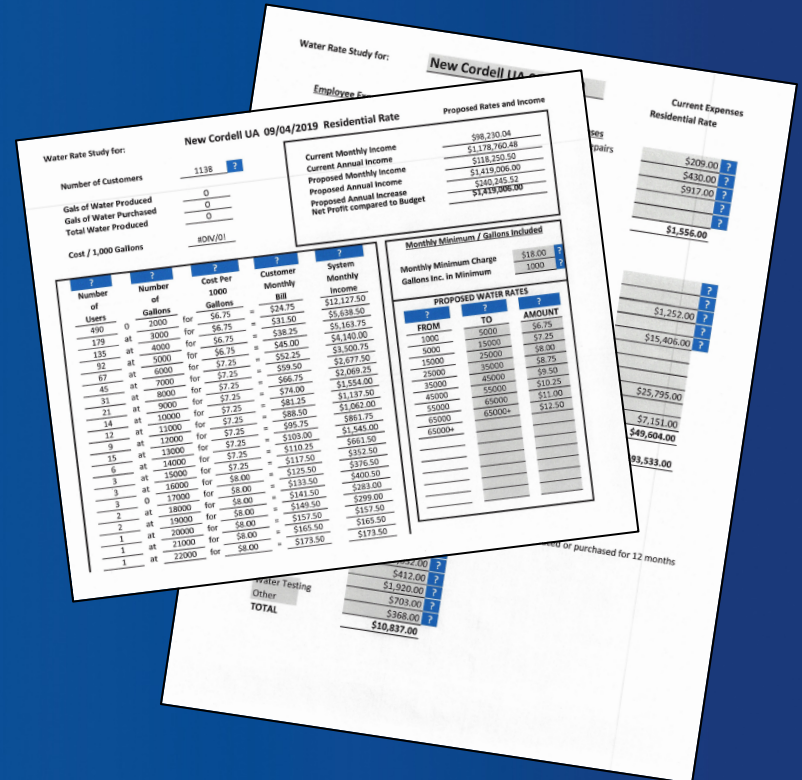
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# Activities

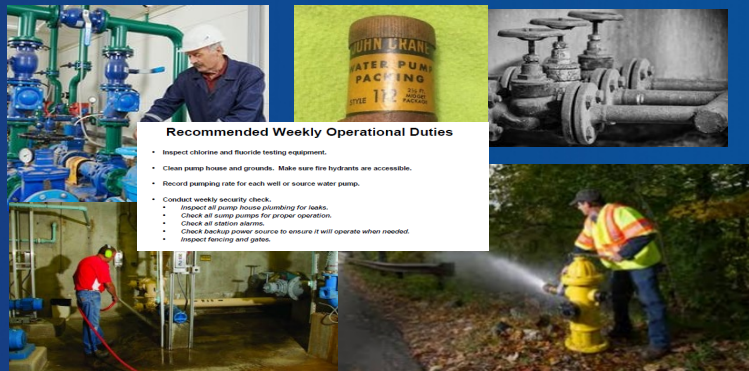
# Water Loss Control



## Rate Analysis



## Long Range Sustainability



# OKLAHOMA STRATEGIC ALLIANCE 2020 RURAL WATER IMPACT



# Water Loss Control - Auditing

*...moving from “unaccounted for” water to an understanding of real loss, apparent loss, and unbilled usage.*

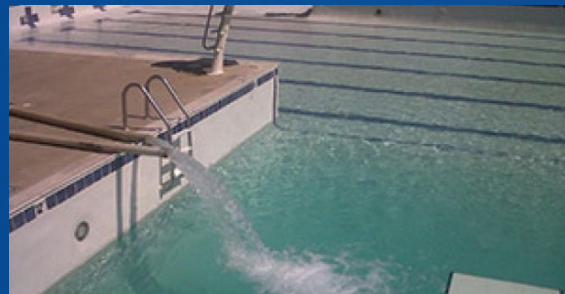
Real Loss:



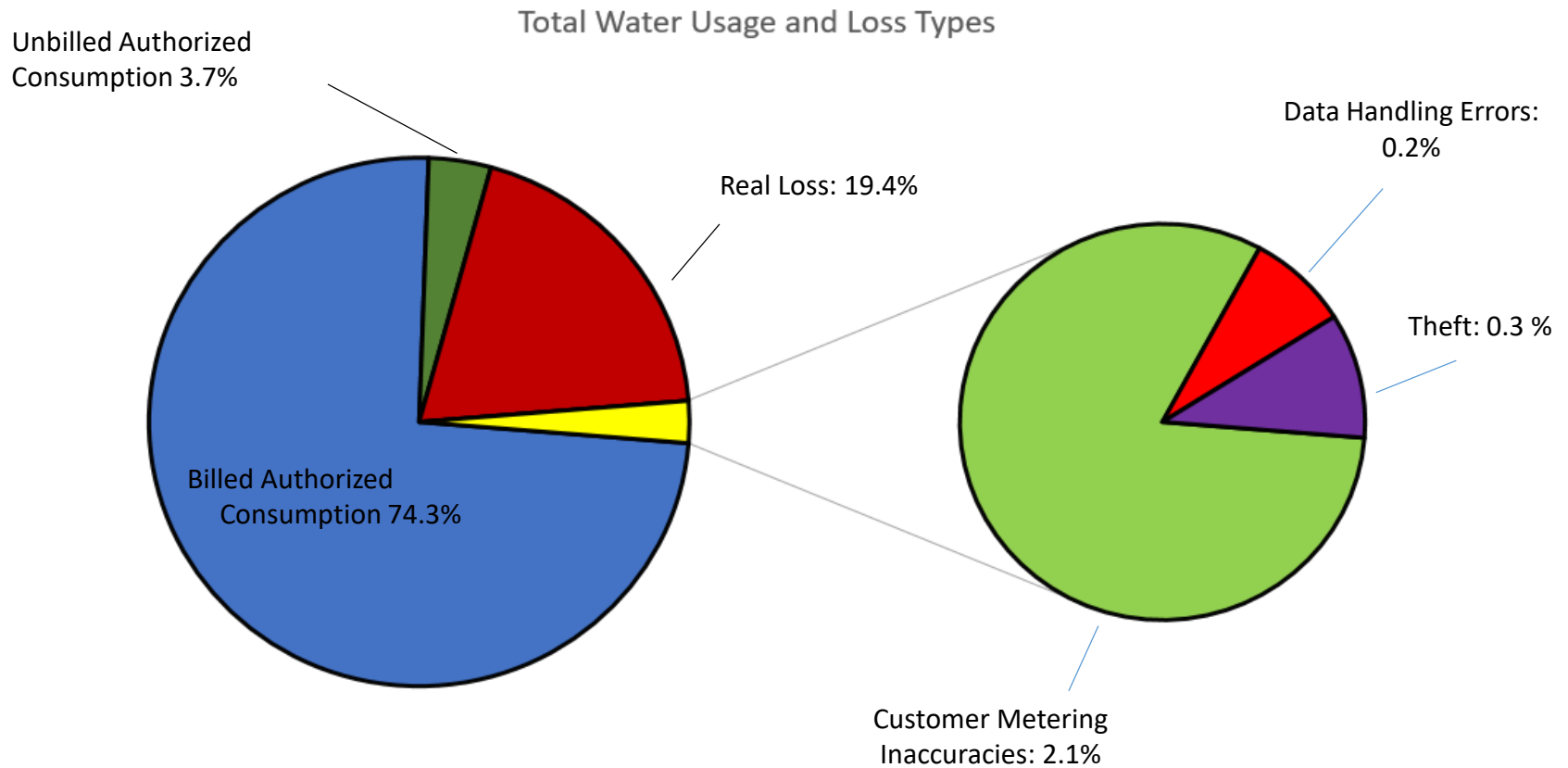
Apparent Losses:

A screenshot of a software application window titled "Water Audit 11.0.0 - Executive Summary". The window displays a complex table with multiple columns and rows of data, likely representing water audit results. The table includes various numerical values and text labels, organized into sections. The interface appears to be a professional-grade data management tool.

Unbilled usage (metered or unmetered):



## Audits Completed: 175



Total Apparent Loss: 900.9 MG/yr @ \$4.9 Million/yr

Total Real Loss: 6.9 BG/yr @ \$8.4 Million/yr (production cost)

# Water Loss Control – Leak Detection / Meter Analysis

- Typically multi-week (2-4 weeks) event.
- Leak Detection
  - ORWA finds leaks, and trains staff how to find them.
- Meter Analysis
  - ORWA tests all production meters, and a percentage of customer meters



AWWA Meter Testing: 6 meter types



Leak Detection at 28 systems

# Leaks Detected: 152

810 MG/yr real loss identified

Meter Analysis at 11 systems

26.4% of customer meters inaccurate

50% of production meters inaccurate



# Water Loss Control – Results

## Real Loss Repaired:

Over 490.9 MG/yr saved.

Valued at over \$1.2 Million/yr at production cost.



After participating, PWS are becoming more accurate with data recording and management.

Total PWS operations costs are increasing.

Apparent loss and unbilled usage is decreasing.



# Rate Analysis

A fully funded water system: enough revenue for operations, maintenance, capital improvement, contingency fund.

9 rate studies completed and adopted:

- 0.33 average increase in operating ratio.
- \$2.06 Million in increased revenue for systems.

**Water & Wastewater Rates Analysis Model**  
Version 2.8.1 (last updated May 24, 2015)

Developed by the Environmental Finance Center at the University of North Carolina, Chapel Hill  
http://efc.unc.edu

Funded by the U.S. Environmental Protection Agency and the Public Water Supply Section of the North Carolina Department of Environment and Natural Resources

**Get Started**  
Download a copy of the model populated with data from an example utility

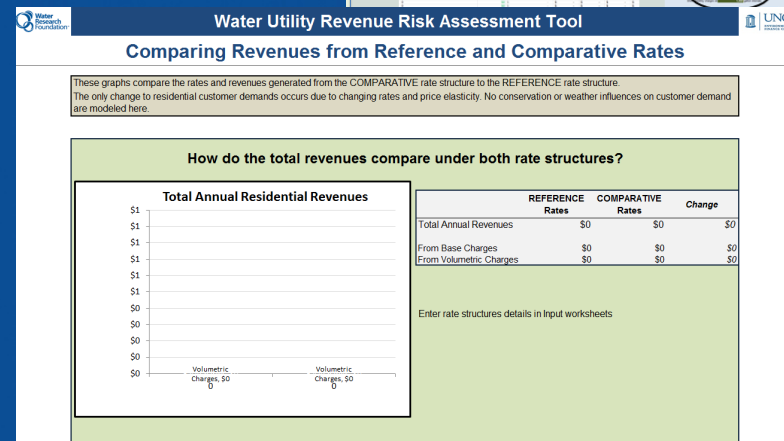
**DESCRIPTION**  
A do-it-yourself, simplified financial model to assist utility managers and private system owners in setting water and wastewater rates.

**FEATURES**  
Comparisons of annual fund balance projections (for up to 20 years) under proposed new rates vs. staying with existing rates  
Adjust rates for the next 1-5 years  
Up to 12 rate structures  
Uniform or block rates (up to 10 blocks)  
Model changes to accounts and water use  
Customizable list of operating and capital expenses  
Building up reserves through rates  
Compare monthly bills under new rates vs. existing rates  
Assess revenue sufficiency and fund balance  
Error notifications

**INSTRUCTIONS**  
1) Navigate using worksheet tabs at bottom of screen or following arrows and clicking on buttons  
2) In the green "Data Input" worksheets, input data in the dark green cells  
3) Adjust the new rates while monitoring the "Quick View" box in Data Input 1 to achieve desired results

Watch out for red "Error" messages describing where data entry errors have been made

Quick View: With the "New" entry you entered, the model is projecting that the net revenue in 2014 will be \$76,324 and the end of year fund balance will be AT OR ABOVE the minimum target





# Long Range Sustainability

## *One Water System, Many Environments*



- 3 Operations and Maintenance Plans, at a savings of \$26,550
- 10 Emergency Response Plans, at a savings of \$36,000
- 3 Personnel Policies, at a savings of \$14,000
- 7 Financial Management Policies, at a savings of \$61,950
- 1 Board Management Policy, at a savings of \$8,850
- 9 Asset Management Plans, at a savings of \$70,200
- 1 System Map, at a savings of \$30,000
- 5 Standard Operating Procedures, at a savings of \$44,250
- 6 Source Water Protection Plans, at a savings of \$78,000
- 7 Safety Plans, at a savings of \$6,300
- 4 Sanitary Sewer Surveys, at a savings of \$136,000
- 7 Hydraulic Analyses, at a savings of \$70,000



# Apprenticeship Program

- Approved by U.S. DOL, Office of Apprenticeship
- Developed for
  - Incumbent employees and
  - Future Water and/or Wastewater Systems Operation Specialists
- Will provide consistent, base-level of knowledge & training within the industry
- Pre-Apprenticeship Program designed for 9-12<sup>th</sup> grade students
  - Introduce students to the industry
  - Job-shadowing opportunities
  - STEM fairs / Career Tech Job fairs, etc.



# Apprenticeship Program

- Water Systems Operations Specialist & Wastewater Systems Operations Specialist
  - Each program consists of the minimum requirements below:
    - 2 year term
    - Approx. 4000 hrs. On-the-Job Learning
    - Approx. 288 hrs. formal classroom training
  - 18 yrs. old to enter program
  - Hourly wage rate at completion \$17.00/hr

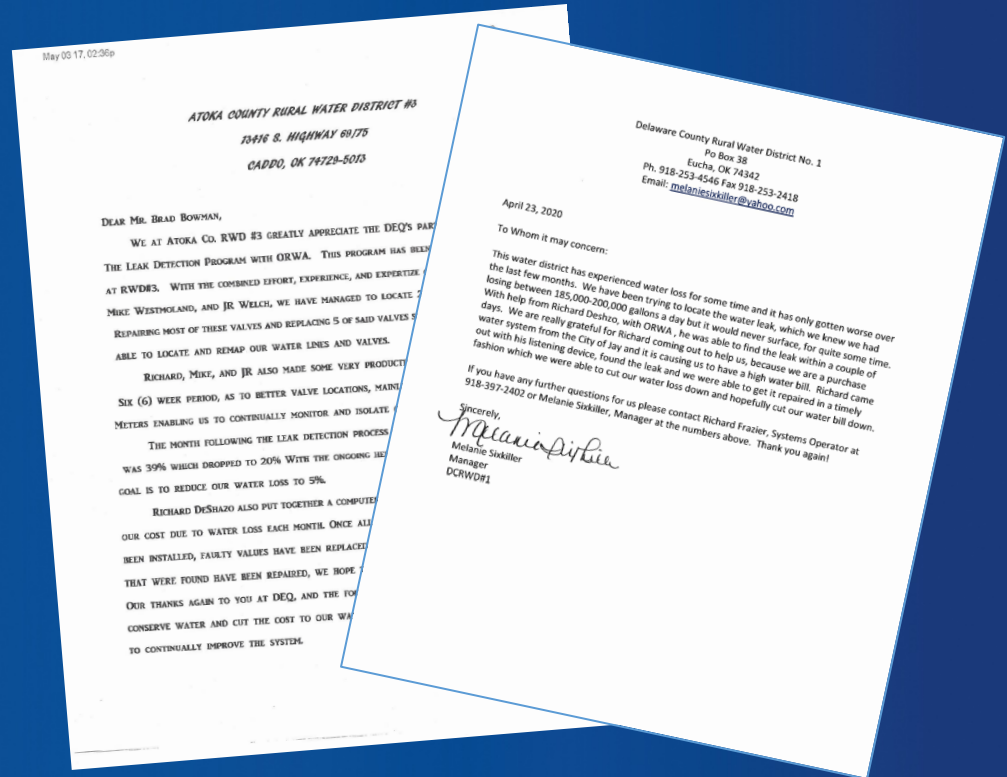


# Return on Investment

*In FY 2020, the Strategic Alliance has generated \$6.04 in direct economic benefit for every dollar invested.*



The Oklahoma leak busters



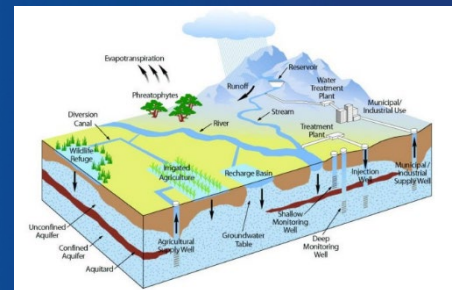
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# Future Plans

Continuing work with water loss control and rate analysis.



Adding two new areas of focus: asset management and source water protection.



Long range sustainability expanding to focus on disadvantaged communities.



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*When it's all said and done, the majority of improvements made at a water system have always been, and will always be, do-it-yourself.*

*Change starts and ends with the water system acting on our suggestions.*

## **OKLAHOMA STRATEGIC ALLIANCE 2020 RURAL WATER IMPACT**



For more information,  
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