

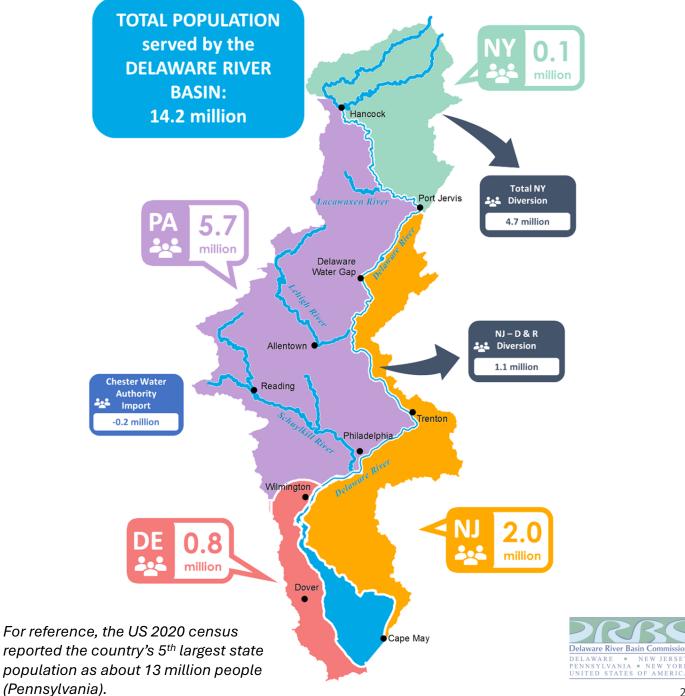
## Michael Thompson, P.E.

## **Delaware River Basin Commission** DELAWARE NEW JERSEY PENNSYLVANIA • NEW YORK UNITED STATES OF AMERICA

**October 16, 2024** Water Management Advisory Committee (WMAC)

Presented to an advisory committee of the DRBC on October 16, 2024. Contents should not be published or re-posted in whole or in part without permission of the DRBC or the presenter.

Over 14 million people rely on the Delaware River Basin for drinking water

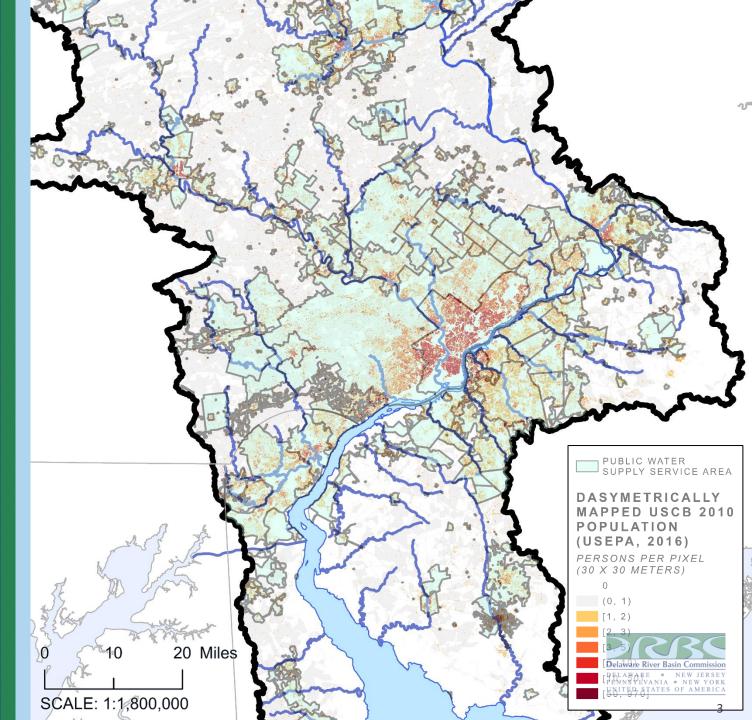


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# Most people in the Basin rely on public water supply



**8.629 million people** live in Delaware River Basin (2020 Census) 7.366 million people
live inside public water
supply service areas
~ 85% of the population



# The DRBC "Water Audit Program" applies to about <u>300 water systems</u>



29,000 miles of water main (enough to circle the Earth)



2.5 million service connections (active and inactive)

#### 2000

—

**~** —

International Water Association publishes research standardizing methods to quantify water loss

#### 2006

DRBC staff participate on the American Water Works Association (AWWA) Water Loss Control Committee (WLCC) and help publish the first AWWA Free Water Audit Software (FWAS)

### 2007-2009

DRBC undergoes rulemaking process Adopted Res 2009-1 to amend the Water Code Applies to systems which: "distribute water supplies in excess of an average of 100,000 gallons per day (gpd) during any 30-day period"



The first mandatory water audits are due for CY2012



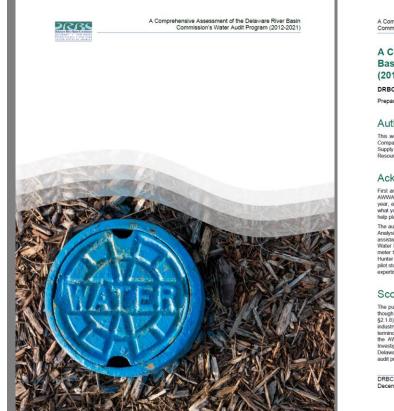
A Comprehensive Assessment of the Delaware River Basin Commission's Water Audit Program (2012-2021)



DRBC audit program

## Visit the website:

#### https://www.nj.gov/drbc/programs/supply/water-audit-program.html



A Comprehensive Assessment of the Delaware River Basin Commission's Water Audit Program (2012-2021)



A Comprehensive Assessment of the Delaware River Basin Commission's Water Audit Program (2012-2021)

DRBC Report No: 2023-7

Prepared by Michael Y. Thompson, Sara C. Sayed, and Chad E. Pindar

#### Authorization

This work is being conducted in accordance with Article 3 Section 3.8(c) of the Delaware River Basin Compact (PL 87-328, 75 Stat: 688). More specifically, the project is outlined in Section 2.2.1.3 (Water Supply Minagement: Conservation, Special Area Management, and Permitting) of the DRBC Water Resources Program FY2024-2026 (DRBC, 2023).

#### Acknowledgements

First and foremost, the authors express gratitude to all utilities and staff who have been completing the AWWA Free Water Audit Software reports over the past decade. Thank you for your coordination year after year, and for working with DRSC to get the best data feesbile. As the adage goes, you cannot manage what you do not measure – and because of your efforts, it is possible to perform analyses such as this to help plan for a sustainable future.

The authors express their gratitude to Allan Lambert and Kale Stanton-Davies (Water Loss Research & Analysis LLB) for sharing valuable knowledge of the industry's history, reviewing the draft report, and for assistance related to their ongoing research on System Correction Factors; to George Kunkel (Kunkel Water Efficiency Consulting) and Gary Trachtman (Arcadu SJ, AWWA WLCC) for their discussions on meter testing/accuracy, and for providing valuable insight after reviewing a draft report, and to Margaret Hunter (New Jersey American Water) for her assistance in compiling the additional data needed for the plot study on System Correction Factors. Additionally, the authors would like to acknowledge the help and expertise of the DRBC Water Management Advisory Committee (WMAC).

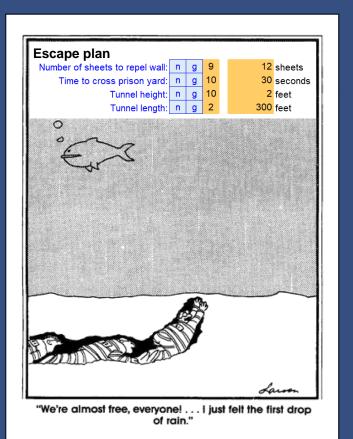
#### Scope and Organization

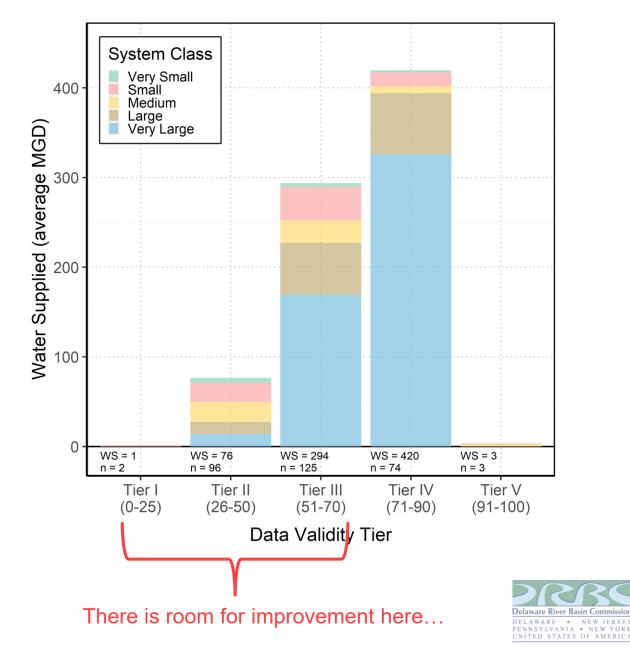
The purpose of this study is to perform a comprehensive assessment of the ten years of data collected though the Delevance River Basin Commission's water audit program (Delevane River Basin Water Code §2.1.8). A detailed background on water system efficiency is presented, with a specific focus on how the industry has antived at its current practices (e. top-down approaches to water balances with standardized terminology). A review of the most recently ear of data (CY2021) summarzes specific metrics measured by the AWWA Free Water Audit Software, biolowed by assessments of observed Tends (2012-2021) investigators are performed to estimate possible reductions of real water loss (e. leadage) across the Delevance River Basin. Multiple recommendations are made at the end of this report to help move the water audit program in the Delevance River Basin from monoting progress, to promoting progress.

DRBC 2023-7 December 2023



## "Are you sure?"







# We never know the Worth of Water, till the Well is dry.











Delaware River Basin Commission E: <u>Michael.Thompson@drbc.gov</u> P: (609) 883-9500 ext. 226



DRBC website

DRBC audit program

