

Colorado Water Loss Initiative (CWLI) is a program of the Colorado Water Conservation Board that aims to reduce supply-side water loss by providing training and technical assistance to water providers in Colorado.



COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Manual 36 Water Auditing and Loss Control Programs are an initiative of the American Water Works Association's, which allow providers to identify the volume of water losses (non-revenue water) in their distribution infrastructure, determine the economic value of these volumes, and then select appropriate mitigation measures to control those losses. The image below illustrates the many categories that make up non-revenue water loss.



American Water Work Association

Volume from Own Sources (corrected for known errors)	System Input Volume	Water Exported (corrected for known errors)	Billed Water Exported			Revenue Water
		Water Supplied	Authorized Consumption	Billed Authorized Consumption	Billed Metered Consumption	Revenue Water
Water Losses	Unbilled Authorized Consumption			Unbilled Unmetered Consumption	Unbilled Metered Consumption	Non-Revenue Water
		Real Losses	Apparent Losses	Customer Metering Inaccuracies	Unauthorized Consumption	
Water Imported (corrected for known errors)					Systematic Data Handling Errors	
					Leakage on Transmission and Distribution Mains	
				Leakage on Service Connections Up to the Point of Customer Metering		

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Non-revenue water losses are challenging to quantify because they may be physically invisible (known as “real losses”), such as an underground leak, or might be process-based (known as “apparent loss”), such as meter inaccuracy. While some amount of loss is commonplace, it is difficult to pinpoint the source and quantity until a complete audit is conducted. CWLI’s training and assistance programs help providers locate all sources of water loss and address them by providing guidance on the following topics:

Regulatory Developments and Implementation

While not every authority requires a formal audit process, issues with water scarcity could soon make it a common standard of practice, and curbing water loss is a maturing, effective efficiency practice.

Occurrence and Impact of Apparent Losses

Understanding the causes and impacts of apparent losses enhances the ability to develop effective loss-control strategies, and often provides complementary end-user benefits, such as improved consumption data.

Understanding Real Losses Due to Leakage

Aging systems, locations, and changes in pressures can create and progressively magnify infrastructure issues over time.

Planning and Sustaining a Water Loss Control Program

Conducting annual audits after the initial baseline is a best practice for identifying issues with repairs and ongoing investment.

In order to meet obligations to stakeholders, water suppliers must manage valuable water resources in ways that promote quality, reliability, safety and fiscal responsibility. Water loss audits help providers conserve significant amounts of treated water, increase revenue by minimizing water losses, demonstrate a commitment to upholding accountability in their operations, and maximize the value of existing water supplies in meeting the needs of a growing population.