



# Distribution System Leakage (DSL) & Water Loss Control Action Plans (WLCAP) – *The What and The Who* *Case Studies about Water Loss in Washington*

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**Office of Drinking Water**

**PUBLIC HEALTH**  
ALWAYS WORKING FOR A SAFER AND  
HEALTHIER COMMUNITY



# Office of Drinking Water's Mission

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To protect the health  
of the people of  
Washington State  
by ensuring safe  
and reliable  
drinking water.



# DSL Reporting occurs Yearly and includes a Rolling Three-Year Average

## Online Annual WUE Reporting

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**WUE**  
Water Use Efficiency



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# Washington's – Distribution System Leakage (DSL) Standard

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- Put in Source meters – 2007; **Service Meters - 2017**
- Achieve a DSL rate of 10 percent or lower
- Develop and implement a Water Loss Control Action Plan (WLCAP) if over 10% DSL
- Request permission from Department of Health for a 20 percent or less DSL compliance standard
  - \*Only systems with 500 or fewer connections may apply

# WAC 246-290-820 ~ DSL Standard

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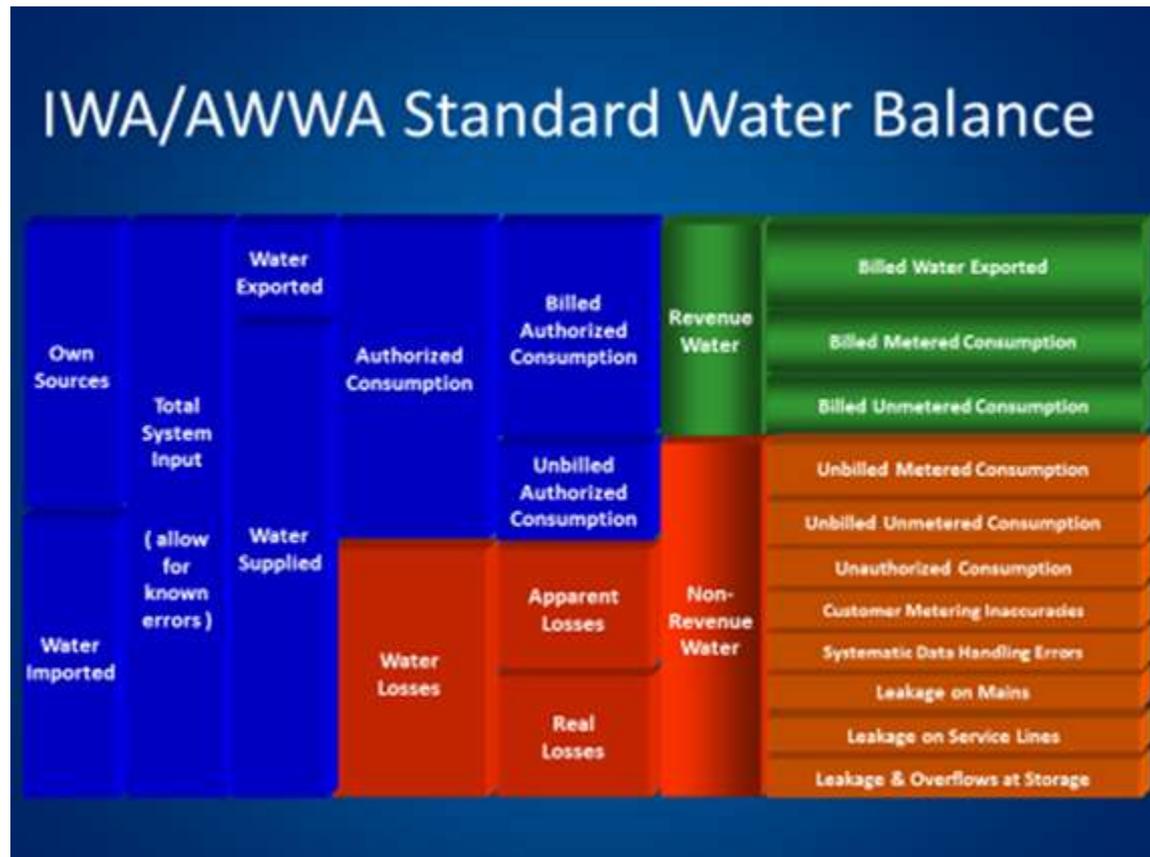
- Total Produced and Purchased = TP
- Less **Authorized Consumption** = AC
  - Non-metered non-revenue AC (like fire fighting) must be estimated and tracked
- **Volumes of water** are in the WUE Annual Report so it's not just about percent!
- Systems are to provide a **short narrative** in the WUE Report about their **supply-side** efficiency program

# What is a Water Loss Control Action Plan (WLCAP)?

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- **Document efforts** to reduce leakage, **apparent losses** or meter accuracy
- **Timeframe** for achieving the distribution system leakage (DSL) standard
- **Funding \$\$** as a line item in the WSP budget
- Explanation of technical or economic concerns **preventing success**
- If > 10 DSL, WSP must include WLCAP

# DSL in WA ST. “lumps” all water losses together... (Is the Nation moving ahead of us?)... the AWWA “splits”



# The Stories about Apparent Losses

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Poor data collection skew results – big time!

- Inconsistent data collection and timing
- Theft, construction --- Water used

## How about metered and billed?

- Unreliable or lost records due to personnel changes
- Billing software glitches
- Customer bill adjustments without telling the right person
- Meter reading errors and **math errors** do happen!

# The Next Chapter : City of Bingen

## Klickitat County – 410 services

### Case Study:

- Hired G&O to help with WLCAP
  - **20,696 LF AC & steel pipe**
- Rolling 3-Year Average:
  - 2010 - 2012 = 44.7%**
  - 2013 = 19.3%**
- **Found math error** (by a factor of 1,000) at a large industrial user
- Evaluate test meter data? Abandoned line leaking? Intertie accuracy? Calibration?
- **Replaced 6” and 8” meters and re-configured others**
- Found big leak on high traffic street – repairs will be made in 2015
- Other efforts will depend upon outcome of 2015 fixes



# Eastsound Water Users Association

San Juan County – 1081 services

## Case Study:

- DSL = 6.4 - 9.4% (2011, 2012, 2013)
  - In volume, leaking about 10,000 GPD
- Creating a Capital Improvement Program for main replacement over the **next four decades**
- **Shows customers** photos of poor condition pipe and main breaks
- **Shows customers** a service area map where projects were completed in the last year



# Doe Bay

## San Juan County – 276 services

### Case Study:

- 2012 Request for DSL to 20%
  - When **after extensive efforts** – leak detection and repair – still high
  - Committed to making main repairs in the South branch of their system in summer 2012
  - **> 90 customer service lines** are leaking at such a low rate their meters are not sensitive enough to register this...
  - **Per mile leakage is less than 1 gpm**
- DOH approved their request 5/21/2012
- At last reporting year – **Success:** 2013 DSL = 8%



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