

What's Working In Water Loss Control?

June 2, 2021



Agenda



- Project Briefs
- Panel Discussion
- Q&A

Panelists



Kate Gasner, Water Systems Optimization

Stephen Estes-Smargiassi, Massachusetts Water
Resources Authority

Casey LeBlanc, East Bay Municipal Utility District

Dan West, Moulton Niguel Water District

Matt Smith, Moulton Niguel Water District

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Three decades of cooperative leak detection efforts

Stephen Estes-Smargiassi

Director of Planning and Sustainability

- MWRA was created in 1985 to revive the regions' obsolete and aging water infrastructure
- MWRA provides wholesale water and wastewater services to over 2.5 million customers in 61 communities
- MWRA delivers an average of 200 million gallons per day to its water customers, with a peak demand of 350 million gallons





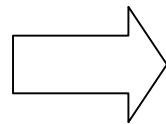
Comprehensive Demand Management Strategy

Initiated in 1987, to avoid major supply augmentation project

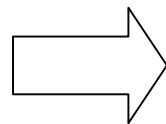
WATER USE

Residential Toilet Shower Laundry Kitchen Tub & Sink Outdoor
Industrial Commercial Institutional Process Cooling Sanitary
Unaccounted For Water Leakage Meter Errors Public Use Other

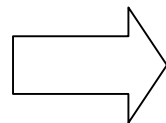
Problem



Inefficient Fixtures
Poor Water Habits

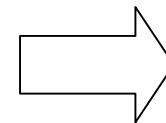


Inefficient Fixtures
Once Through Cooling
Inefficient Process Use

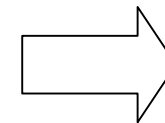


Leakage
Meter Errors

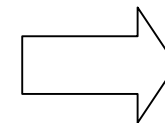
Response



Retrofit Fixtures
Public Education
School Education
Efficient Technology



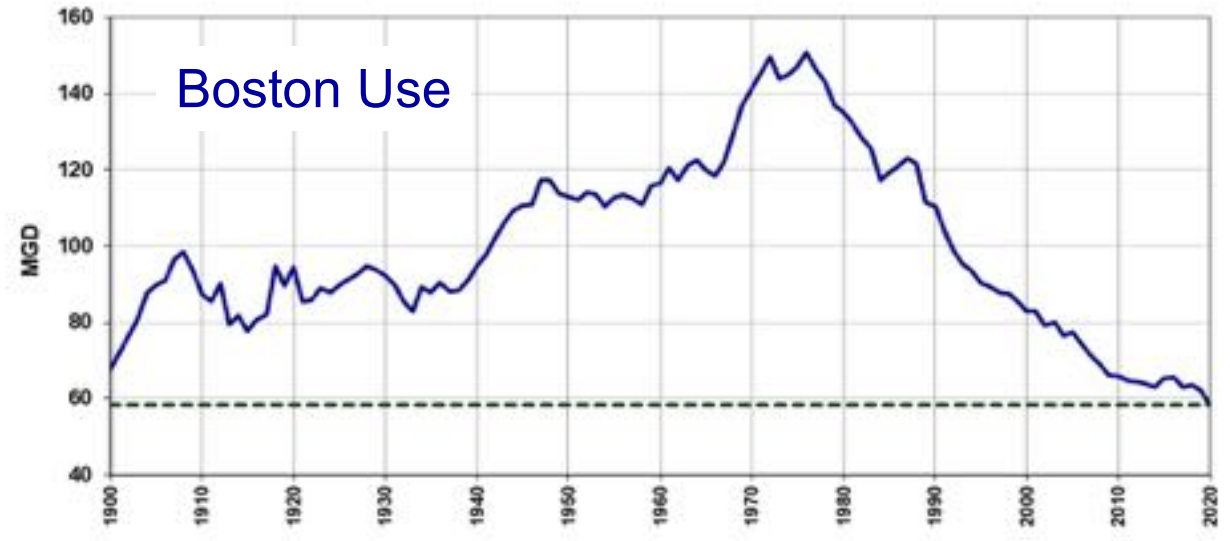
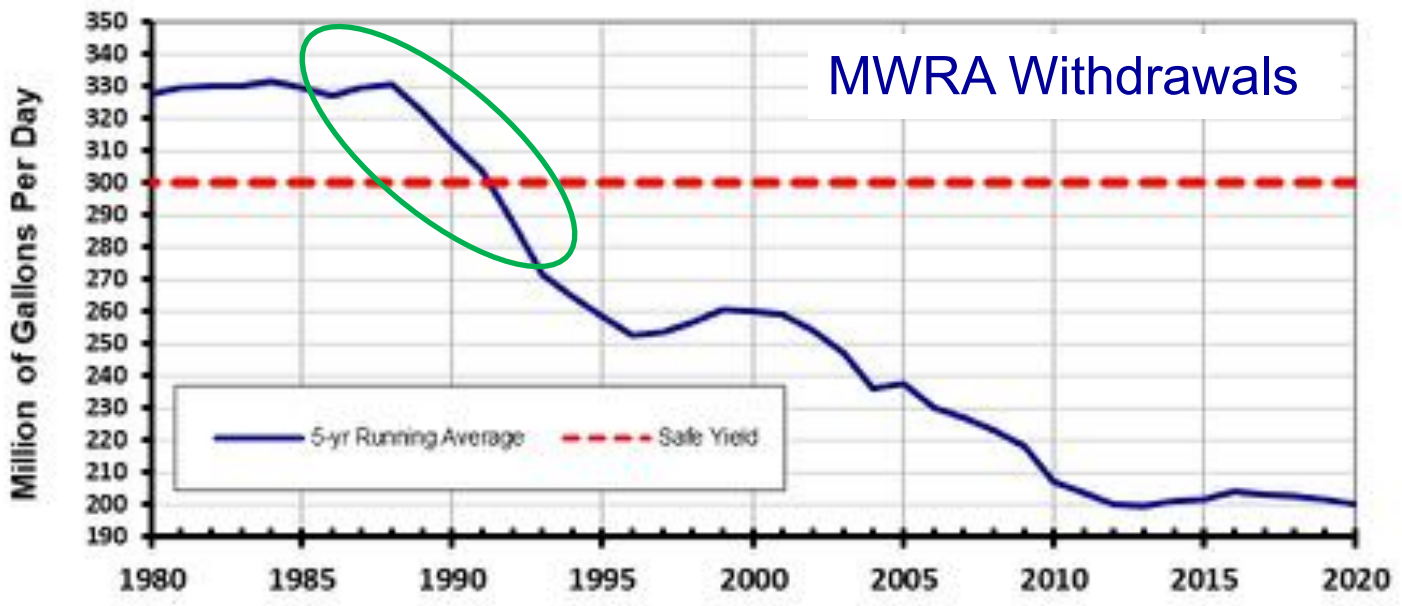
Technical Assistance
Water Audits
Technology Transfer
Training & Education



Leak Survey & Repair
Test/Replace Meters



Reductions in Water Use Provide Multiple Environmental and Resiliency Benefits



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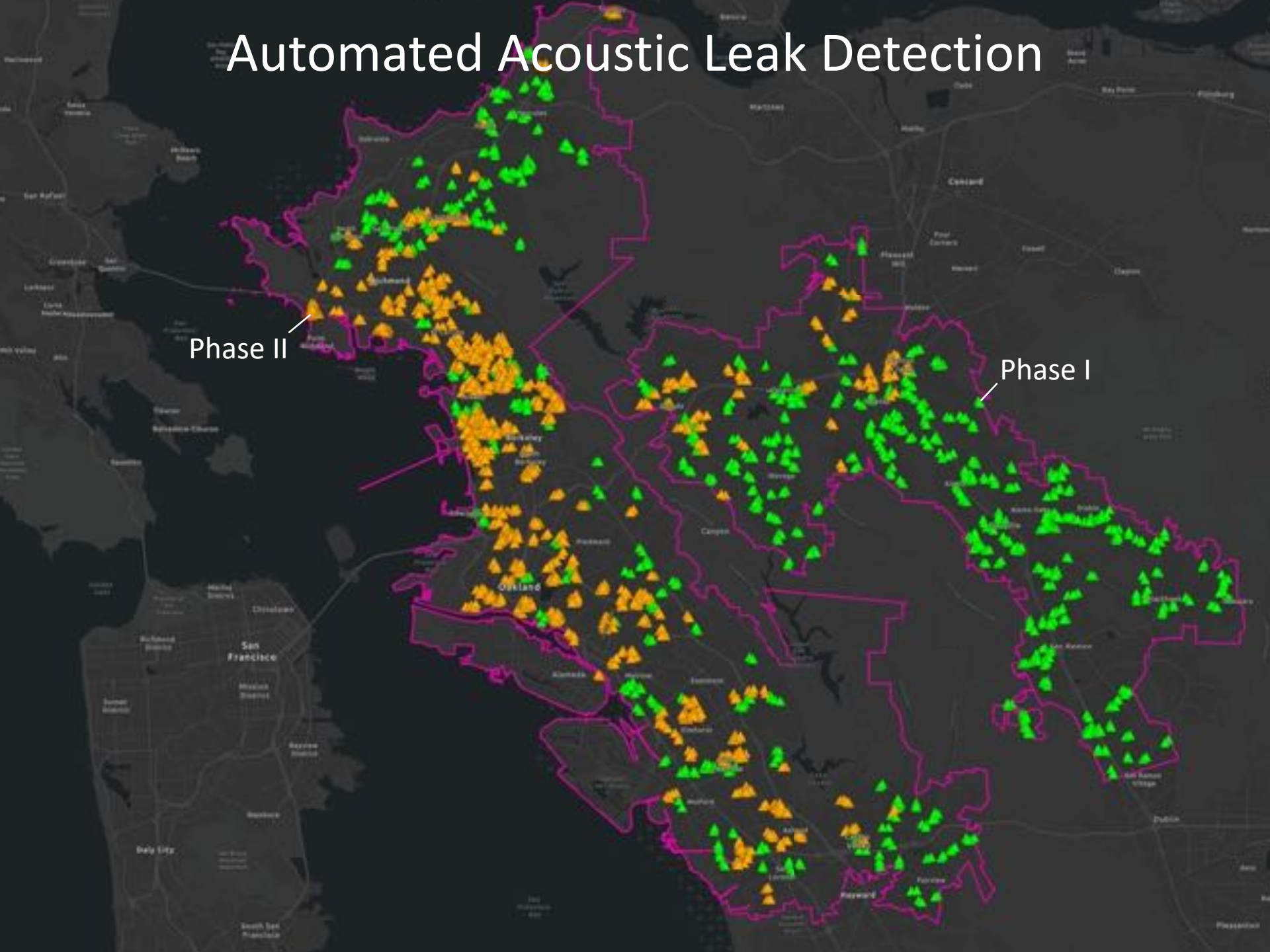
Automated
Acoustic
Leak Detection

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Automated Acoustic Leak Detection

Phase II

Phase I



Unreported Leak Example



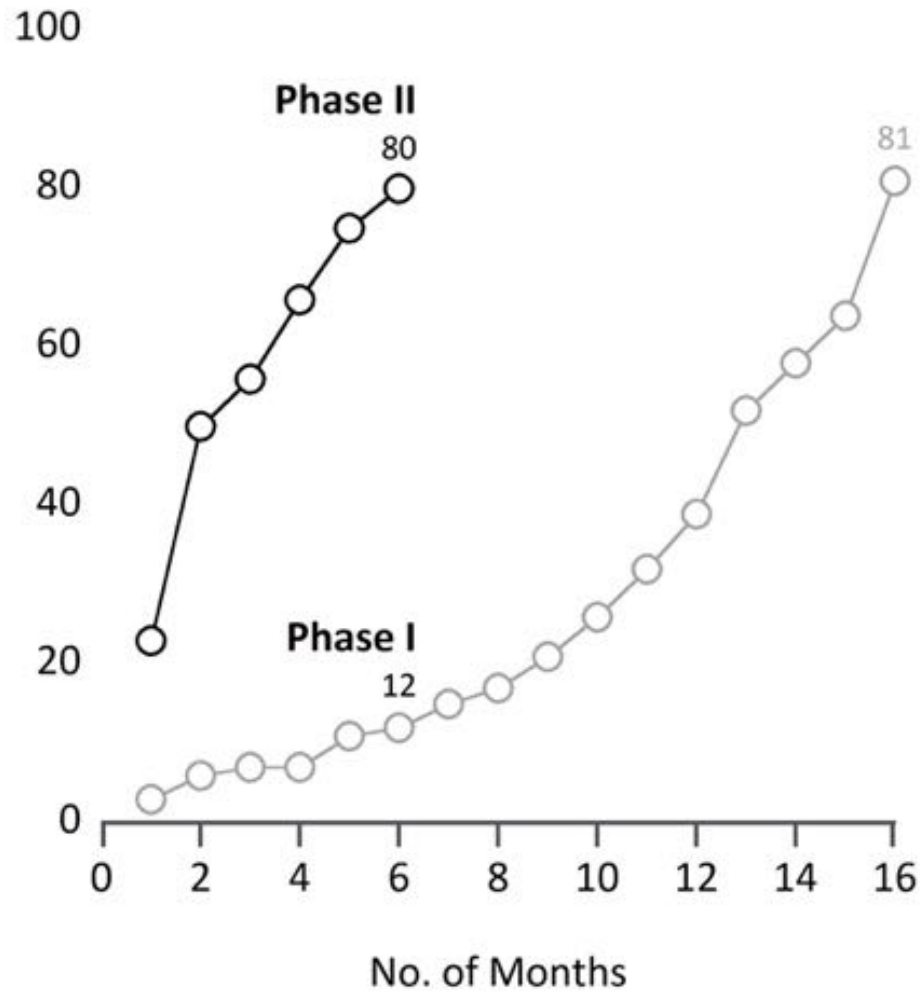
Leak location marked after correlation; no water surfacing



Leak on 1" corporation stop; replaced corp. stop and lateral

Finding More Leaks

Cumulative Leaks



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TRANSIT TIME METER



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Transit Time Ultrasonic Flow Meter

- Determine actual leakage rate
- Improved efficiency
- Can register gallons per minute by mounting outside the pipe
- Non-intrusive installation
- Simple to use
- Can be used on ½"-48" pipe
- Estimates by staff = .5-1 gpm
- Actuals = 2-13 gpm



Transit Time Ultrasonic Flow Meter Video



Questions?



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