



**2024 Lead and Copper Rule
Community Forum**

**MWRA Advisory Board
May 16, 2024**



Welcome and Introductions

Valerie Moran

Director of Waterworks

Stephen Estes-Smargiassi

Director of Planning and Sustainability



Training Logistics for Remote Participants

- Everyone is muted – please use raise hand or use chat function
- Put your name, affiliation and email address in the chat to ensure TCHs are received. (For each person if more than one are at your computer)
- A copy of slides will be provided after the forum



Forum Agenda

- Welcome and Introductions – *Valerie Moran*
- Overview – *Stephen Estes-Smargiassi*
- Lead and Copper Rule Improvements, Proposed Rule - *Stephen Estes-Smargiassi*
- Service Line Inventory Requirements – *Dave Granados*
- Required Service Line Outreach – *Dave Granados*
- Impacts of Lead Service Lines on lead levels - *Stephen Estes-Smargiassi*
- Funding Sources for LSL Replacement and Inventories – *Kristen Hall*
- What Can Communities Do to Prepare? - *Stephen Estes-Smargiassi*

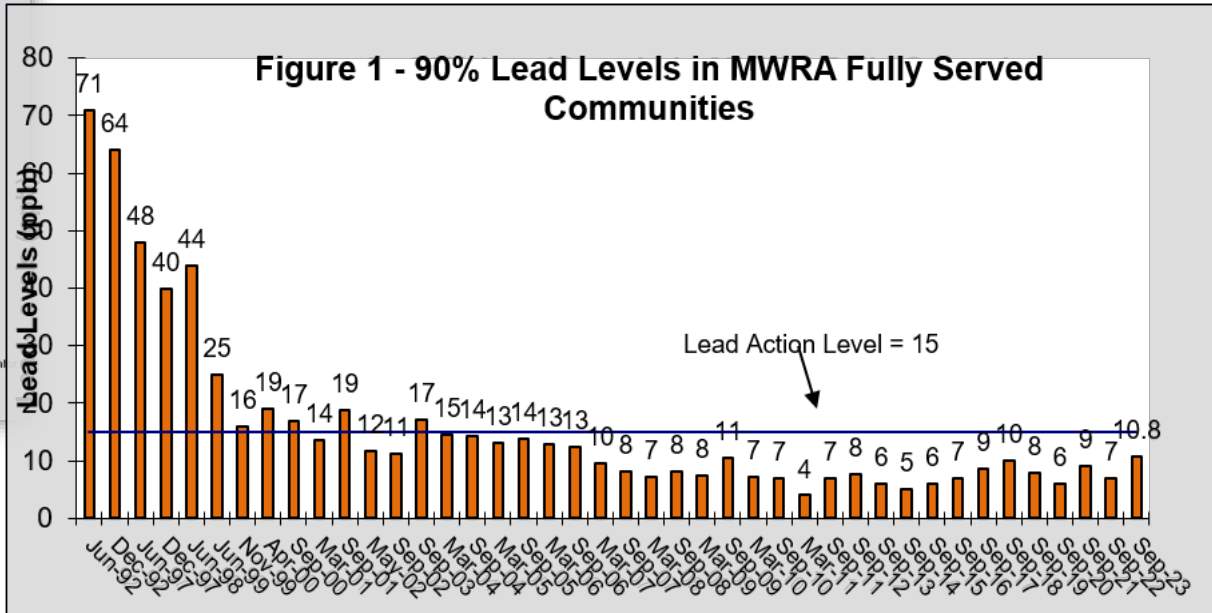
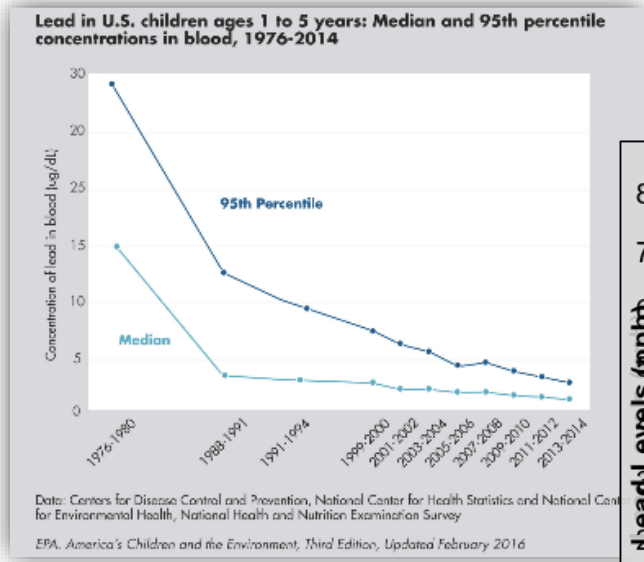
- *Q and A – Valerie Moran*

- Upcoming AWIA Deadlines – *Valerie Moran*



Public Water Suppliers – Protecting Public Health

- Our goal is public health protection
- Children’s blood lead levels are down 90 percent
- Lead levels at customer's taps have declined dramatically
- But still more to be done





Managing the risk of lead in water is a shared responsibility

- Long Term Goals
 - Reducing lead corrosion
 - Removing lead from contact with our water
- MWRA - Effective Corrosion Control Treatment
- Communities – Managing Distribution System, Removing LSL
- Residents – Cooperate in LSL Replacement, Premise Plumbing
- Health Professionals – Effective Communication about Risks





Lead and Copper Rule *Improvements*

- EPA issued additional draft *Improvements* to the LCR in December 2023 (LCRI)
- EPA expects to issue final LCRI in October 2024
- Replace all LSL within 10 years
- Lower Action Level from 15 ppb to 10 ppb
- Change sampling and reporting protocols
- Require re-optimization of corrosion control if over the AL
- Option to defer CCT changes if replace LSL in 5 years
- Delays some aspects of LCRR until 2027



What's Due in October 2024 and Beyond

- Every community must submit an initial service line inventory to MassDEP by October 2024
- Every community with lead service lines, galvanized requiring replacement or unknown service lines must do initial annual customer notification by November 15, 2024
- Every community over the lead Action Level must do the 24 hour Tier 1 public notice for sampling completed after October 16th
- Other aspects of the LCRR have been deferred by the LCRI until after 2027



Lead Service Lines – Impacts and Opportunities

- Lead Service Lines are the most significant source of observed lead
- Removal will improve public health, as well as, community and MWRA 90th percentile results
- MWRA is proposing Lead Loan Program changes to facilitate accelerated replacement



Service Line Inventories

David Granados

Project Manager, Community Support



LCRR Service Line Inventory

All PWS have to submit a Service Line Inventory

1

Submit the inventory by **October 16, 2024**

2

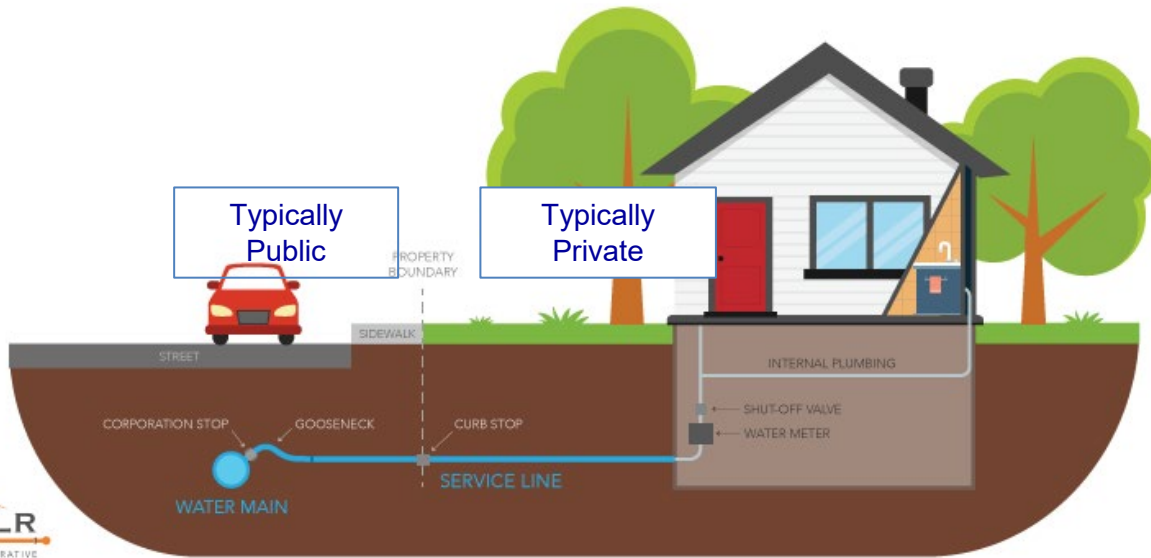
Initial Notifications to customers with LSL by **November 15, 2024**





LCRR Service Line Inventory

Must identify both Public side and Private side pipe material.



Four (4) Classifications:

- ✓ Lead Service
- ✓ Galvanized Requiring Replacement (GRR)
- ✓ Lead Status Unknown
(assumed lead until status determined)
- ✓ Non-Lead Service Line

If a Galvanized service line is or ever was downstream of a Lead or Unknown = Galvanized Requiring Replacement.



LCRR Service Line Inventory Requirements

Initial Lead Service Line Inventory must include:

Location Identifier

- Service No., Street Address, community block, etc.

Is This a LCR Sampling Location?

- Some additional information required if YES

Connector Present? => Material

Material of Each Portion of Service Line

- Public-side, Private-side

Install Date

Was Public Service Line Material Ever Previously Lead?

Entire Service Classification*

Verification Method

Building Type

* DEP Inventory template will automate the classification



Build and Submit an Inventory

MassDEP Inventory Workbook for Community Water Systems

F	G	H	I	J	K	L	M
CURRENT PUBLIC SERVICE LINE MATERIAL	WAS PUBLIC SERVICE LINE MATERIAL EVER PREVIOUSLY LEAD?	PUBLIC SERVICE LINE SIZE (inches)	PUBLIC SERVICE LINE INSTALL DATE (YYYY)	CURRENT PRIVATE SERVICE LINE MATERIAL	PRIVATE SERVICE LINE SIZE	PRIVATE SERVICE LINE INSTALL DATE (YYYY)	ENTIRE SERVICE LINE CLASSIFICATION
C	NO	1"	1974				NON-LEAD

Context menu for cell J5:

- DEP: Inventory Col. Options
 - Column C
 - Column D, Q or G
 - Column E
 - Column F or J**
 - Column I or L
 - Column M
 - Column N
 - Column P
 - Column R or S
 - Column T
 - Column U
 - Column V
 - Column W
 - Column X
 - Column H or K
- DEP: Inventory Validation
- DEP: PWS Information

Material selection list:

- (L) - Lead
- (C) - Copper**
- (G) - Galvanized
- (PVC) - Plastic (PVC)
- (HDPE) - Plastic (HDPE)
- (DI) - Ductile Iron
- (CI-L) - Lined Cast Iron
- (CI-U) - Unlined Cast Iron
- (B) - Brass
- (UNK-LG) - Unknown, may contain lead and/or galvanized
- (UNK-NOLG) - Unknown, definitely does not contain lead or galvanized

Other menu items:

- Filter
- Sort
- Insert Comment
- Format Cells...
- Pick From Drop-down List...
- Define Name...
- Hyperlink...

<https://www.mass.gov/lists/lead-copper-forms-templates>



Build and Submit an Inventory

MassDEP Inventory Workbook for Community Water Systems

COLUMN NAME	OPTIONAL/REQUIRED	COLUMN DESCRIPTION	VALID VALUES	VALID VALUES DESCRIPTION	CSV HEADER NAME
PUBLIC SERVICE LINE INSTALL DATE	REQUIRED	The four-digit year that the utility-side service was installed (e.g. 1974). If the exact year is not known, enter the decade (e.g. 1970s, 2000s). If unknown, was the service line installed Pre-Lead-Ban (PLB) or After-Lead-Ban (ALB).	PLB ALB Valid Regular Expression Patterns: ^((1{1}(?:[89])[0-9]{1}) (2{1}(?:[0]) 0-2)))(0{1}'?s{1}\$ ^[1-2]{1}[0-9]{3}\$	PLB = Pre lead ban ALB = After lead ban E.g., 1910's, 1910s, 1920's, 1920s E.g., 1974, 1993, 2003, 2020	public_sl_install_date
CURRENT PRIVATE SERVICE LINE MATERIAL	REQUIRED	Service line pipe material, from the curb-stop to water meter.	L C G PVC HDPE DI CI-L CI-U B UNK-LG UNK-NOLG	L = Confirmed Lead C = Confirmed Copper G = Confirmed Galvanized PVC = Plastic (PVC) HDPE = Plastic (HDPE) DI = Ductile Iron CI-L = Lined Cast Iron CI-U = Unlined Cast Iron B = Brass UNK-LG = Unknown, may contain lead and/or galvanized UNK-NOLG = Unknown, definitely does not contain lead or galvanized	current_private_sl_material
PRIVATE SERVICE LINE SIZE	OPTIONAL	Service line pipe diameter, in inches (e.g. 3/4", 0.75), from the curb-stop to water meter. This column may be used by PWSs that wish to track information required in a single document.	3/8" 1/2" 5/8" 3/4" 1" 1 1/4"		private_sl_size



What if my system doesn't have any lead services?

- Still required to submit *initial* inventory;
- Submit the “Certification of Non-Lead Service Lines” to MassDEP; and
- Once approved, PWS will still be required to post a “NONLSL Statement” declaring that it has no LSL, GRR, or unknown service lines.



<https://www.mass.gov/doc/lcrr-certification-of-non-lead-service-lines-request-for-approval>



LCRR Service Line Violation

What if the PWS does not submit an inventory by October 16, 2024?

- Constitutes a Treatment Technique Violation
- Subject to EPA Enforcement Action

Don't let the perfect be the enemy of being on TIME



Opportunity to do an early preview
submittal to DEP



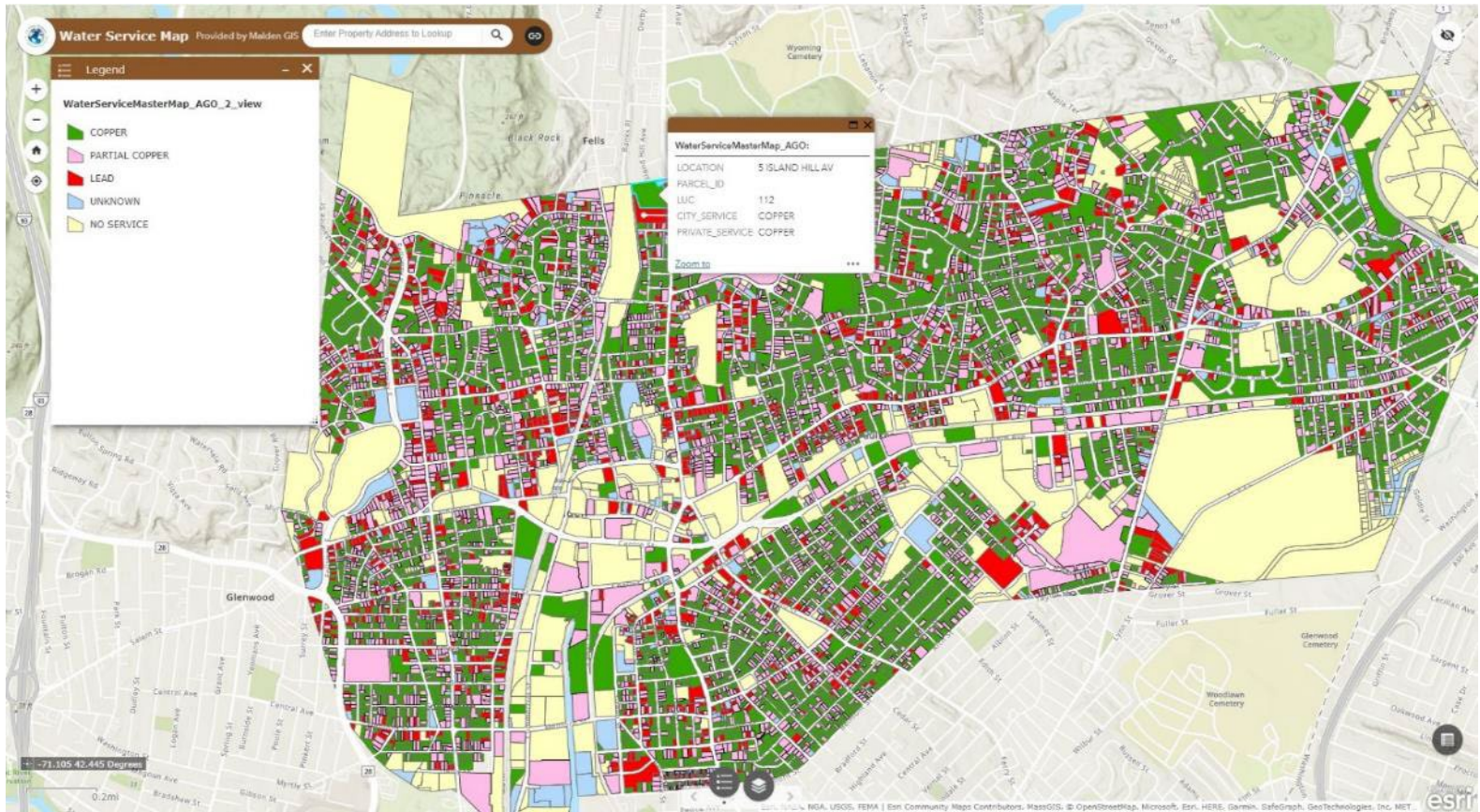
All systems must make the inventory available to the public

- Full Accounting of Services Using: List, Table, or Map with Location Identifier
- Required data for each Service Line Materials on both sides (public and private)
- Systems greater than **50,000** must post inventory online





Lead Service Line Map





Lead Service Line Dashboard and Map

EVERETT A Lead-Safe Community Water Department

Lead Service Lines (Utility Owned) **639**

Lead Service Lines (Customer Owned) **694**

Lead Service Lines Replaced **374**

We could use your help!
Use the link below to fill out a brief survey regarding the water service line material in your home.

[Water Service Line Material Survey](#)

Lead Service Line Map

[Click to Fullscreen Map](#)

EVERETT Lead Service Line Inventory Built by Weston & Sampson Inc.

Legend

Lead Service Line

- Lead
- Assumed Lead
- Galvanized Requiring Replacement
- Non-Lead
- Unknown

19 Wolcott St.

Attribute	Utility	Customer
Lead Category	Non-Lead	Non-Lead
Material	Copper-COP	Copper-COP

Zoom to: [Address]

300m

-71.05242438 Degrees

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Inventory Countdown

May 16, 2024 to October 16, 2024



154 Calendar Days

22 Weeks

105 Working Days

Keep us in the loop



Outreach to Occupants of Homes Based on Inventory

Dave Granados



Initial and Annual Notifications

- ❑ **Notify:** PWS are required to inform all residents with **LEAD, GRR, and Unknown** connections that their SL may contain lead by **November 15th**.
 - Notification must be repeated **every year** until there are no LSLs

- ❑ **Educate:** Letters should include:
 - Statement that SL is or could be lead
 - Explanation of health effects
 - Actions to reduce exposure
 - Opportunities to verify the material or replace the SL
 - EPA will issue a suggested template – customize with local info

- ❑ **Certify:** Records (initial and annual) must be sent to MassDEP by **July 1st** of the following year.

<https://www.mass.gov/doc/lead-service-line-replacement-program-work-notice-first-notice/download>



Likely to generate national and local **press coverage...**



...be prepared to **tell your story**. Provide your good news



Implications of Lead Service Lines for the MWRA System

Stephen Estes-Smargiassi



It's All About the Lead Service Lines

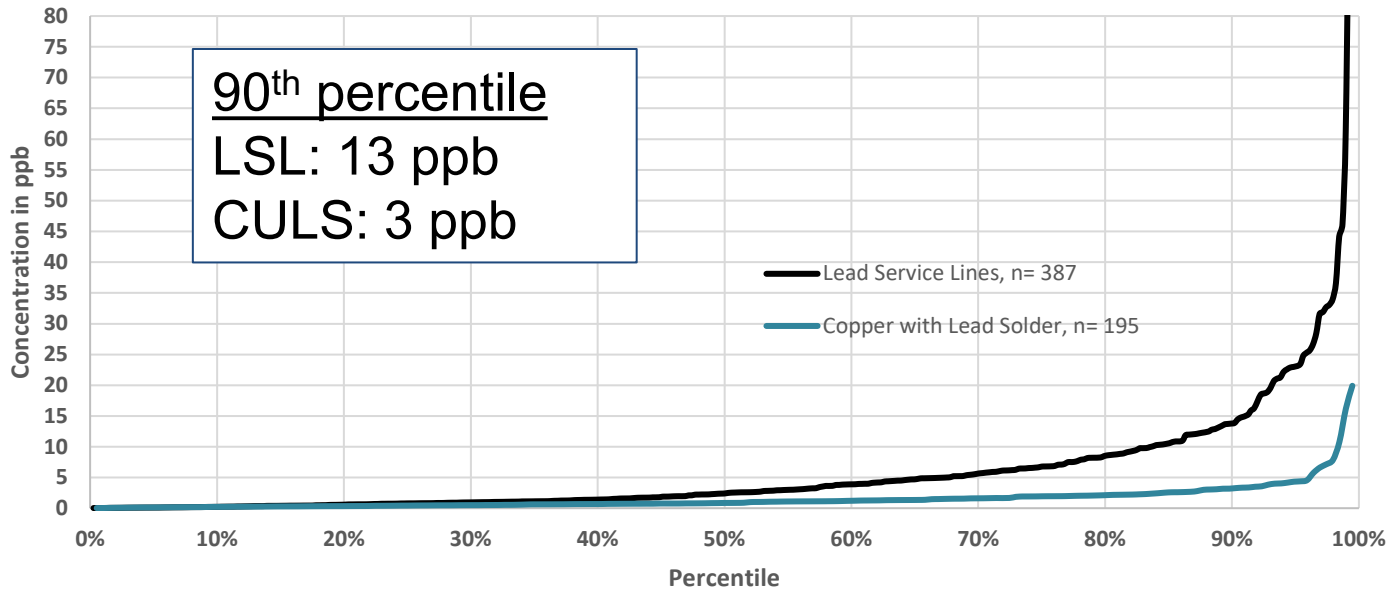
- Where they exist, LSL are the single largest source of lead in water
- The new rules require that we sample in those homes with LSL
- First and fifth liter sampling will drive results upward
- Lead Action Level will drop from 15 ppb to 10 ppb
- Systems that exceed the lead AL, must re-optimize corrosion control





2023 Sampling Results: System-wide 90th = 10.8 ppb

2023 Sampling Round Results



Type	Median	75 th Percentile	90 th Percentile	95 th Percentile	% of Total
LSL	2	7	13	23	65
CULS	1	2	3	4	33

Most samples with elevated lead came from homes with LSLs



Over past 10 years – 91% of sites over the AL, were LSL

Action Level = 15		Action Level = 10
1028	Unique sites sampled	1028
101	# over AL	161
92 (91%)	# that were LSL	147 (91%)





90th Percentile Results Significantly Lower for Non LSL Sites

Year	2018	2019	2020	2021	2022	2023
90th Percentile Full system	10	8	6	9	7	11
90th Percentile Just LSL	12	11	8	13	9	14
90th Percentile Just Lead Solder	3	3	2	3	2	3

Red shows results over proposed new Action Level of 10 ppb



Option to Defer Change to Corrosion Treatment

- If MWRA exceeds the lead Action Level, we must re-optimize corrosion control treatment
 - Most likely option is adding orthophosphate
- Estimated capital and operating costs - \$60 to \$80 million (current \$)
- LCRI offers an option to accelerate lead service line replacement rather than change corrosion control treatment
 - Replace all LSL within 5 years at 20% per year (done by 2032)
 - Defer action on treatment changes while in process
- Protect public health and eliminate the problem, rather than add another chemical to our drinking water



What Could Prevent “Getting the Job Done”

- Current estimates are that there are at around 15,400 LSLs(2.9%)
- Only get credit if all of the LSLs is replaced.
- Private side replacement required, but can be difficult to get participation



Program Changes to Accelerate LSL Replacement

Kristen Hall

Senior Program Manager, Community Support



MWRA Current Lead Loan Program

- Launched in 2016 - \$100 Million for community projects
- 10 year interest-free loans
- Must replace **ALL** lead pipe within a service line - **BOTH** public and private portions
- If any portion of service is lead or brass, entire service is eligible for replacement
- Funding for Inventories also eligible





Progress to Date – Funding Distributions

- Distributed \$43.8 Million to 17 Communities:
 - Newton \$4.0 M
 - Marlborough \$5.0 M
 - Everett \$5.5 M
 - Winchester \$2.8 M
 - Winthrop \$4.7 M
 - Quincy \$3.0 M
 - Needham \$1.0 M
 - Somerville \$2.5 M
 - Chelsea \$1.8 M
 - Revere \$1.5 M
 - Weston \$160,000
 - BWSC \$3.5 M
 - Watertown \$1.5 M
 - Reading \$1.5 M
 - Malden \$500,000
 - Melrose \$1.0 M
 - Lexington \$3.9 M





Progress to Date – Lead Removals

- MWRA LPAP and LWSAP funded approximately 3,300 lead services



- Since 2016, MWRA LLP has funded removal of more than 4,500 lead services and 1,100 lead goosenecks



Proposed Revisions to the Program

- The Advisory Board recommended the Board of Directors authorize the inclusion of a 25% grant
- Board of Directors to vote next week on grant and addition of \$100 million to program
- Details to be worked out between Advisory Board and MWRA staff, but anticipate fully funded removal of private side will be required



Proposed Revisions to the Program

- Effort to help communities remove obstacles
- Fully fund private side replacement
- Will include everything required by new LCRI
- New Program Guidelines expected June 2024





Process Remains the Same

- Application to MWRA for Lead Loan
- Community Authorization for Loan Repayment (via Town Meeting or City Council Vote)
- Community Executes Financial Assistance and Loan Agreements
- Bond Counsel Issues Bond
- Distribution of Funds to Community MMDT Account
- Community Utilizes Funds for Project





Community Support Programs
Massachusetts Water Resources Authority

WATER SYSTEM TOPICS

- Local Water System Assistance Program (LWSAP)**
Loan program to fund local water system improvement projects for member water communities from FY11 through FY20.
- Lead Service Line Replacement Program/Lead Loan Program (LLP), an Enhancement to the Local Water System Assistance Program**
Loan program to fund local projects for member water communities that will fully remove lead service lines from the community water main all the way to the home or business.
- Water Conservation and Efficiency**
Information for member communities, local businesses and residents; free educational brochures and low-flow fixtures; case studies.
- Leak Detection Task Order Contract**
This contract provides member communities access to high quality leak detection service at a reasonable cost. Services performed under the task order contract are paid by MWRA; communities are billed the following year.
- The MWRA Water System**
Information about our water system, including drinking water quality and recent improvement projects.

MWRA Lead Loan Contacts

Kristen Hall

kristen.hall@mwra.com

David Granados

david.granados@mwra.com

Claudia Baptista

claudia.baptista@mwra.com

<http://www.mwra.com/comsupport/communitysupportmain.html>

Questions or Comments?

Drink with Confidence
Flush with Pride

This presentation represents the opinions of the authors and not necessarily those of the MWRA



What Should We Be Doing to Prepare? How Can We Tell Our Story Effectively?

Stephen Estes-Smargiassi



Be ready for -- 24-Hour Public Notice

- EPA imposed this new requirement in advance of the LCR Revisions
- If a community 90th percentile is over the Action Level:
 - 24-hour public notice using newspaper and other media
 - New template for notice – *focus is on LSL*
- Recommend discussing with town officials and preparing in advance
- Timing trigger is completion of all lab results, but could still be a surprise
- MWRA available to assist with notice and follow up activities
 - Still need to do mailed public education brochure (also new)

WATER DEPARTMENT DRINKING WATER NOTICE: **Some homes have high levels of lead**

This notice contains important information about your drinking water. Have someone translate it for you or speak with someone who understands it.



What can we do to prepare?

Complete
and Update
the
Inventory

Resolve the
Unknowns

Set a goal:
No LSL by
October
2032

Notifications
and Flushing

Work on
School and
Childcare
Sampling

Have a Press
Strategy

DOCUMENT



Resolve Unknowns, sooner is best!

Let's Do The Math!

Without Unknowns

	Amount
Total Connections	15,000
Lead	5,000
GRR	1,000
Total LSL	6,000
Rate	10%
Replacements Required per year	600

With Unknowns

	Amount
Total Connections	15,000
Lead	5,000
GRR	1,000
Unknown	3,000
Total LSL	9,000
Rate	10%
Replacements Required per year	900

- Verification of unknown to non-lead does not count
- No credit for partial replacements
- Updated annually for verified unknowns

WORK ON THE UNKNOWN!!!



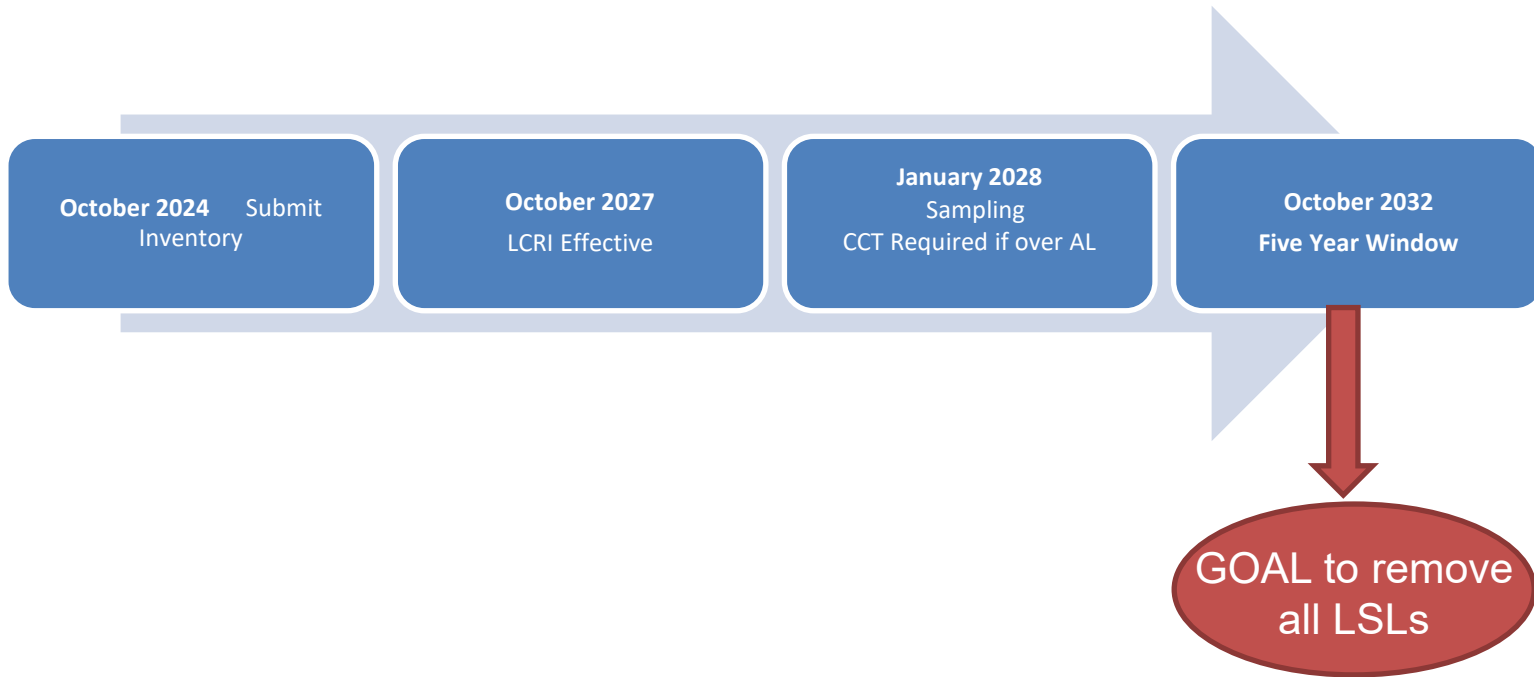
Strategies for Eliminating Unknowns

- Reviewing Documents
- Visual Inspection
- Scrape Test
- Magnet Test
- Water Quality
- Test Pits
- Full Test Pit Excavation





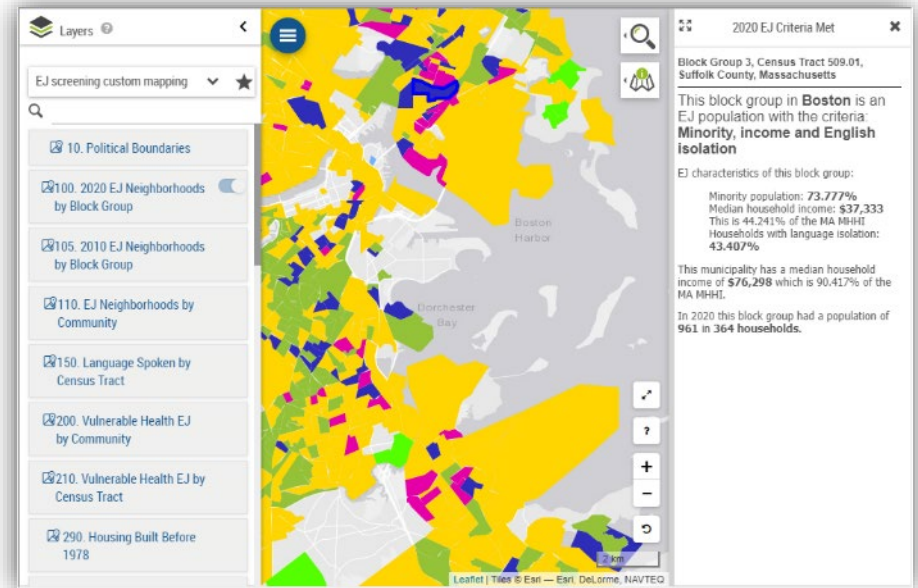
Set goal of complete elimination by October 2032





Prioritize most Vulnerable and Disadvantaged Communities

-  Sensitive Populations
-  Proximity to high lead results
-  Previous Partial Replacements
-  Areas that receive a lot of WQ complaints
-  Environmental Justice Communities
-  Licensed Childcare Centers
-  Nursing Homes / Senior Centers
-  Areas with high density of Children





Priority Setting - Others

- Areas where all Service Lines are of unknown material
- Areas where water mains replacements are planned or conducted
- Previous participation in Lead and Copper Sampling
- Age of current water mains
- Proximity to other known contaminants
- Road moratorium
- Areas where all residents have agreed to participate





Continue to Work on School and Childcare Sampling

- Official start of 5-year cycle is October 2027
- You will get credit for the work already done
- Some systems starting early
- MWRA will do laboratory analysis





EPA Continues to do community LCR audits

- EPA Region 1 Audits
 - June 2022 – 5 communities, plus MWRA
 - May 2023 – 2 Communities
 - 2024 – 5 community audits planned
 - 2025 – continued EPA attention
- Several violations arose from the audits, requiring
 - Corrections to sampling plans
 - Changes to procedures
 - Public notice in CCRs



Lessons Learned From EPA Audits

- Sampling Plans Must be Verified
 - EPA audits have found sampling plans with inaccurate site designations
 - Sites identified as LSL, but
 - Never were lead, or have been since been replaced
 - If your plan says a site is a LSL, verify that it is!
 - Do not sample at a site that is incorrectly identified – use an alternate
- Mis-identification has resulted in monitoring violations





Record Keeping is an Achilles Heel

- Failure to meet reporting deadlines OR to be able to prove that you did meet them
- Need to keep track of when data is received, and what actions are required and when
 - This will be even more important with LCRR and LCRI
- Need to develop contemporaneous records of actions, and keep them (for up to 12 years)
- Need to date letters, and document phone calls
- This resulted in several violations for communities – in some cases, even though they had done the work on time

Questions or Comments?

Valerie Moran – Director of Waterworks

Drink with Confidence

Flush with Pride

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America's Water Infrastructure Act (AWIA) Deadlines

- Seems like just yesterday that we certified compliance with AWIA:
 - Risk and Resiliency Assessments, and
 - Emergency Response Plan requirements
- Risk and Resiliency Assessments must be updated and certified again by:
 - More than 100K population -- March 31, 2025
 - 50K to 100K – December 31, 2025
 - 3,300 to 50K – June 30, 2026
- Emergency Response Plans must be updated and certified again by:
 - 6 months after RRA certification



To qualify for TCHs --

- Include your name, affiliation and email address in chat
- We will send out the slides after the forum as well

Thank You

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RESOURCES + LINKS

MassDEP

<https://www.mass.gov/info-details/lead-and-copper-rule-revisions>

<https://www.mass.gov/doc/frequently-asked-questions-about-the-lead-and-copper-rule-revisions-lcrr>

Public Inventory Guidance:

<https://www.mass.gov/doc/guidance-how-pws-can-make-their-service-line-inventories-accessible-to-the-public/download>

LSL Planning SRF Grant :

<https://www.mass.gov/info-details/lead-service-line-planning->

[program?_gl=1*1ovqbc5*_ga*ODE0MTQ4NDM1LjE2NzUxODAxOTI.*_ga_MCLPEGW7WM*MTY5NTE0NjQ1Ny4yLjAuMTY5NTE0NjQ1Ny4wLjAuMA..](https://www.mass.gov/info-details/lead-service-line-planning-program?_gl=1*1ovqbc5*_ga*ODE0MTQ4NDM1LjE2NzUxODAxOTI.*_ga_MCLPEGW7WM*MTY5NTE0NjQ1Ny4yLjAuMTY5NTE0NjQ1Ny4wLjAuMA..)

Lead Service Line Replacement Collaborative

<https://www.lslr-collaborative.org/proactive-notification-about-water-service-lines.html>

EPA

Inventory Development/Maintenance Factsheet:

<https://www.epa.gov/system/files/documents/2023-06/EPA-Factsheet-Combined-06072023%20508-final.pdf>

Protect your Tap:

<https://www.epa.gov/ground-water-and-drinking-water/protect-your-tap-quick-check-lead>



Useful Links

First Notice

<https://www.mass.gov/doc/lead-service-line-replacement-program-work-notice-first-notice/download>

Second Notice

<https://www.mass.gov/doc/lead-service-line-replacement-program-work-notice-second-notice/download>

Summary Table

<https://www.mass.gov/doc/lead-service-line-replacement-program-summary-table-0/download>

Lead Results above AL

<https://www.mass.gov/doc/lead-service-line-replacement-program-lead-test-result-above-the-action-level-0/download>

Lead Results below AL

<https://www.mass.gov/doc/lead-service-line-replacement-program-lead-test-result-below-the-action-level-0/download>

LSLR Plan Summary

<https://app.smartsheet.com/b/form/8f676b18cc224884a7069e3cc727f968>

EJ DPH Tool - <https://matracking.ehs.state.ma.us/Environmental-Data/ej-vulnerable-health/environmental-justice.html>