

The following report summarizes key parts of LD153-SP40 *Act to Strengthen Testing for Lead in School Drinking Water* as well as the LD206 rules that would implement the program. This report also compares the program to other New England states and provides a simple cost analysis if mitigation/remediation were to be made mandatory in the future.

Below are key points of LD153-SP40 *Act to Strengthen Testing for Lead in School Drinking Water* and the LD206 rules that would be used to implement the program:

- **LD153-SP40 prevents lead mitigation/remediation as a requirement**

The law passed in May of 2019 states that the sampling program cannot require a school system to “expand or modify its activities so as to necessitate additional expenditures from local revenue.” However, mitigation/remediation guidance documents will be provided to all schools with their sample results and will be available on the Maine Drinking Water Program (DWP) website. A survey will be sent to all schools to determine if any mitigation/remediation has taken place or is planned. For schools that have fixtures with lead levels over 15ppb, the DWP will reach out as soon as practical and prioritize these systems in the program to offer additional technical assistance on mitigation/remediation.

- **LD153-SP40 requires that the DWP establish water lead levels**

A lead level of 15 parts per billion (ppb) was chosen, however, if the 15ppb level were to change, it would not alter how the lead sampling program functions. The 15ppb level is not a trigger level or a maximum limit, but rather a way to categorize the highest risk sample sites. Using 15ppb is consistent with the 15ppb lead action level set forth in the federal Safe Drinking Water Act. In addition, a Maine CDC toxicologist has created a risk model and determined that when lead water levels are at 15ppb, the probability of child’s blood lead levels reaching 5 ug/dL would be low (<5% probability). The model assumes that 100% of water consumed would be from school and that the lead level in the water would not vary. Typically, only the first liter of water will have elevated lead levels which decrease as water is flushed through the plumbing.

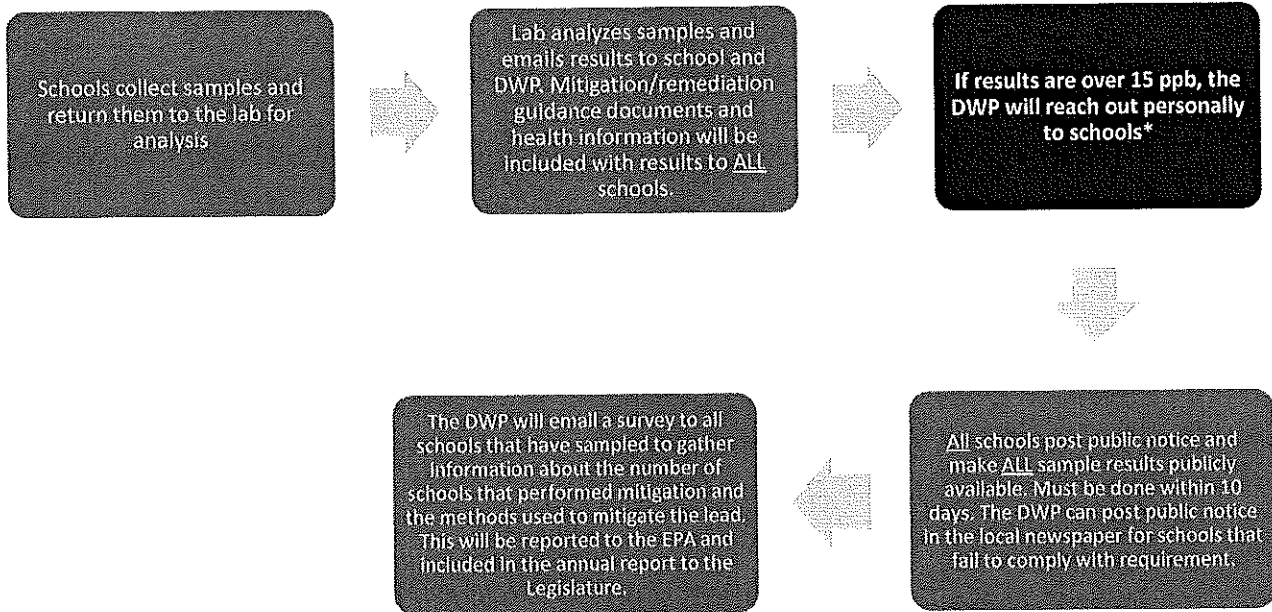
- **Proposed LD206 rules require ALL schools to provide public notice within 10 days**

Schools have 10 days from the time they receive sample results to notify students/staff/parents, using a public notice template form provided by the DWP. The public notice highlights sites with levels above 15 ppb, but it also provides the location where the reader can find all of the sample results. Comprehensive sample results will also be available on the DWP website within 10 days. If schools do not comply with public notice requirements, the DWP will post notice in the local newspaper of the school’s failure to complete public notification requirements.

- **LD153-SP40 does not provide funding**

Funding for lead samples at public schools is via a Water Infrastructure Improvements for the Nation (WIIN) grant through the U.S. Environmental Protection Agency. Federal funding is finite, will expire, and only covers the cost of sampling. Funding for sampling in private schools will be through the DWP subsurface wastewater fund.

Flowchart of Lead Sampling Program



* The DWP will personally reach out to schools with lead over 15 ppb and recommend that the schools develop a lead remediation plan and send it to the DWP. The DWP will recommend that a school prohibit use of any drinking water outlet exceeding a lead level of 15 ppb until lead has been mitigated. Although the rules only require mitigation/remediation technical assistance be provided to schools with levels over 15ppb, in practice, the contracted lab will send mitigation/remediation guidance documents to all schools regardless of results. Any school may request technical assistance from the DWP.

Comparison of Selected New England States' Lead in Schools Drinking Water Testing

	NH	Vermont	Massachusetts	Maine Proposed Rules*
Do they have a school lead testing program?	Yes Required by <u>SB247</u> began in 2018	Yes Required by <u>Act 66</u> and includes child cares began in 2019	Yes Voluntary testing started in 2016 for schools and early education care	Yes Required by law <u>LD153</u>
Is sampling on a recurring basis?	Yes Every 5 years. If 3 consecutive rounds of sampling performed every 5 years are below the standard, further testing shall not be required.	Yes Initial sampling is required for all schools and recurring on a schedule adopted by the department	Yes Every five years, MassDEP requests updated (voluntary) information from facility administrators about lead and copper monitoring and remediation efforts.	No One time for each school but as needed in the future- such as if a town exceeds for lead in the future, the schools served by that water supply could be required to sample again. Note- Funding will not support recurring sampling for all schools, the grant will expire in a few years.
What threshold for lead do they use?	15 ppb	4 ppb	1 ppb Was 15 ppb, it changed in 2019	15 ppb
Is action required over this threshold?	Yes Install new plumbing within 30 days if over 15 ppb.	Yes Must prohibit use of outlet above action level and follow EPAs 3Ts to implement lead remediation plan	No	No Law states it can't cost schools time or money and our grants cannot be used to pay for mitigation.

	NH	Vermont	Massachusetts	Maine Proposed Rules*
Is funding provided for mitigation?	Yes New Hampshire Dept. of Education secured a grant totaling \$1,600,000 to reimburse public and non-public schools in the state for 50% of the total lead remediation costs.	Yes Vermont provides the maximum amount for each fixture: drinking fountain \$1,800, cooking outlet \$650, all other outlets \$350 for schools and \$400 for daycares	Yes School water improvement grant program provides grants for schools with any lead in water fountains to replace with bottle fill station with filter (47% exceed the 1 ppb action level), they grant \$3,000 per fixture and have 180 days to replace fixture.	No The WIIN grant that the DWP has secured to pay for sampling cannot be used for mitigation purposes.
What percent of samples were over the state's action level?	5%	19% of taps exceeded action level. 76% of schools had at least 1 tap above action level.	8% exceeded 15 ppb (In the first year) 69% schools had one or more fixtures over 15 ppb	N/A Haven't begun sampling yet
How long do schools have to notify parents of sample results?	5 business days Also has interim measure, ensure that the children are provided only drinking water that meets the standard.	10 school days	N/A Not required but are encouraged to turn off fixture and notify parents. Results and remediation info provided to Mass DEP will be posted 2 weeks from the date they are informed.	10 days All sample results will be posted on the DWP website. The public notice is a summary of sample results and guides the reader to where they can find the comprehensive sample results. It's recommended that schools also post the full results on their website.
Is there a penalty for non-compliance?	None	\$500	None	None No penalty for failing to sample. Only repercussion is if they don't post public notice then the DWP will post it in the newspaper so the sample results will be made public.

Mitigation/Remediation Cost Analysis

Table 1 shows the number of public and private schools in Maine, as well as the estimated number of fixtures that will be sampled. The number of samples each school collects will be determined by the school, as they are the most familiar with the use of each fixture. Fixture numbers have been determined using data from the Maine Department of Education and DWP fixture data for schools regulated as public water systems.

Table 1: School and Fixture Count

Number of Maine Public Schools	588
Number of Maine Private Schools	122
Estimated Total Number of Potable Fixtures Tested	7,500 - 10,000

Figure 1 shows results of lead water sampling in Maine schools as part of the 2017 DWP voluntary sampling program. Other state programs' results are comparable, so the DWP estimates that the upcoming sampling for LD206 may yield similar results.

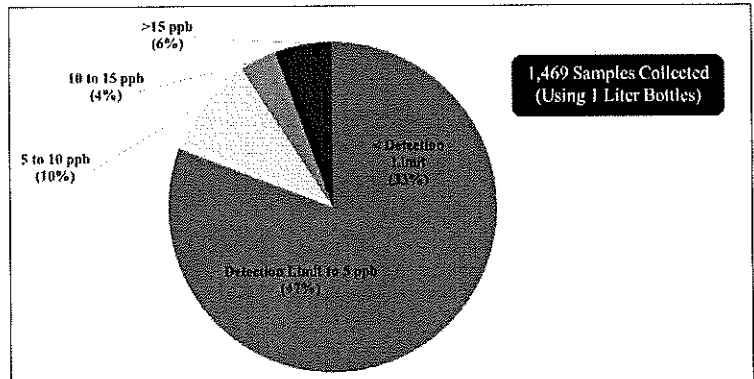


Figure 1: Summary of School Lead Water Results from 2017 DWP Voluntary Testing Program

Table 2 compares the cost estimates for lead mitigation/remediation based on the assumption that all fixtures above the outlined lead levels (1ppb, 5ppb, 10ppb, and 15ppb) would undergo mitigation/remediation. Estimates for the number of fixtures exceeding lead levels are based on historical Maine lead sampling in schools as well as results from other state and municipal lead sampling programs. Mitigation/remediation estimates are based on data from the Maine Department of Education and lead sampling mitigation/remediation costs from the Indiana Finance Authority. Mitigation/remediation costs can vary from \$35 to \$788 for fixture replacement and on average \$44,000 to replace 100% of a school's internal plumbing.

Table 2: Comparison of Mitigation/Remediation Cost Estimates Based on Various Lead Levels

Lead Levels Above	1ppb	5ppb	10ppb	15ppb
Percentage of Fixtures Exceeding Lead Level	67%	20%	16%	6%
Count of Fixtures Exceeding Lead Level	6700	2000	1600	600
Estimated Fixture Mitigation/Remediation Cost	\$ 1,440,582.66	\$ 430,024.68	\$ 344,019.74	\$ 129,007.40
Estimated Plumbing Mitigation/Remediation Cost	\$ 2,684,062.04	\$ 801,212.55	\$ 640,970.04	\$ 240,363.76
Total Estimated Mitigation/Remediation Cost	\$ 4,124,644.70	\$ 1,231,237.22	\$ 984,989.78	\$ 369,371.17

Blood Lead Levels from Water Exposure

Andrew Smith, SM, ScD

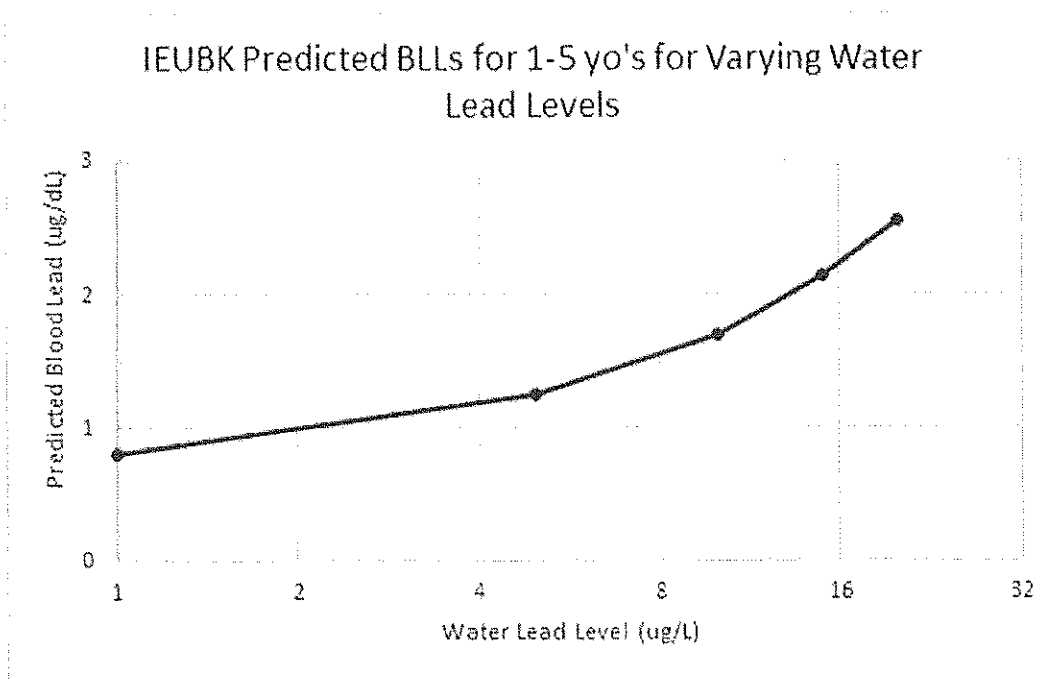
State Toxicologist

Maine Center for Disease Control and Prevention

March 18, 2021



Results from EPA's IEUBK Model

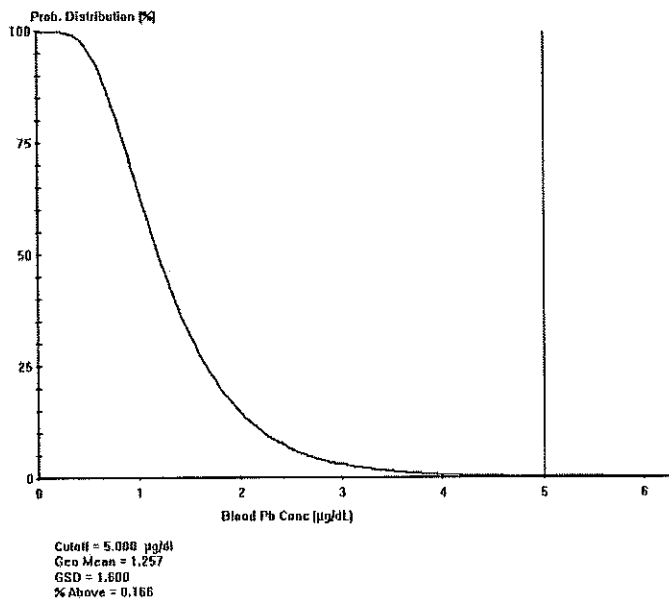


Predicted blood lead level assuming 100% water intake for child at a constant water lead level. Includes background exposure from diet, air, soil/dust.

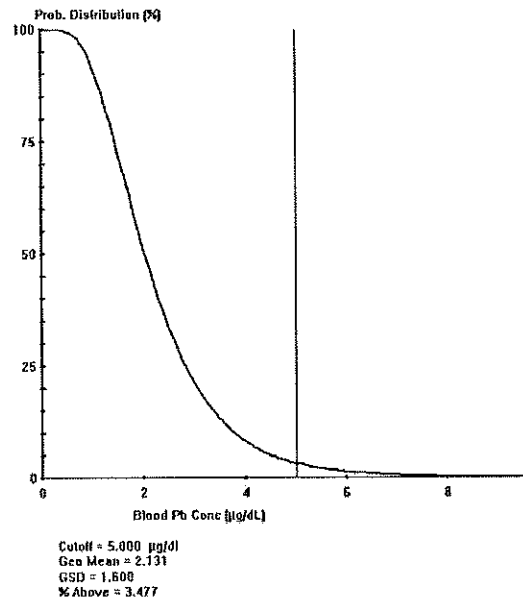
Maine Department of Health and Human Services

Results from EPA's IEUBK Model

5 ug/L Water



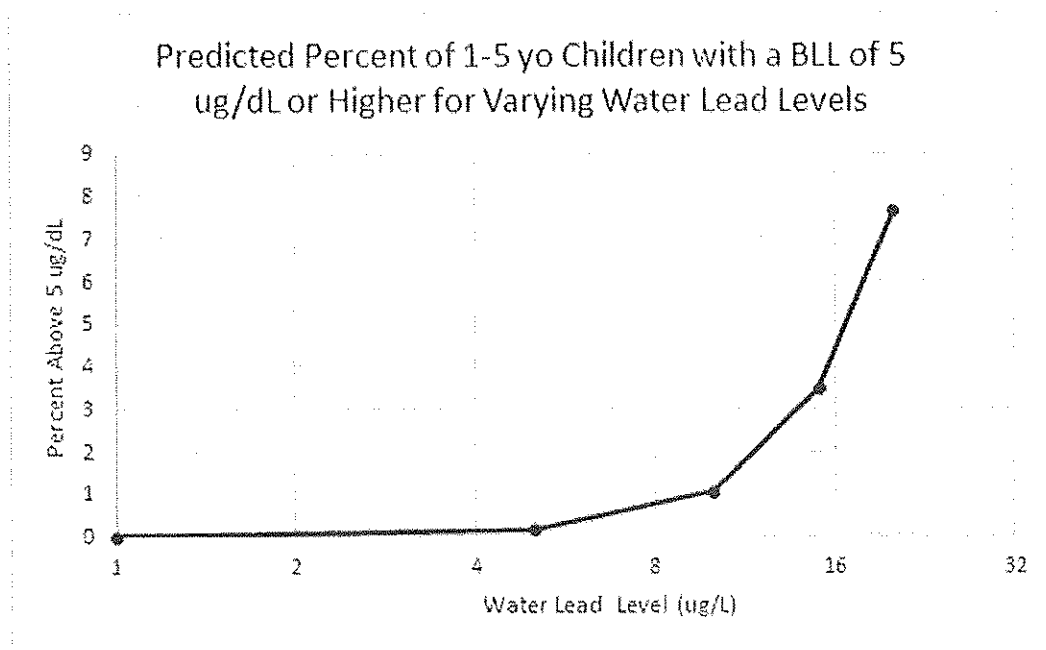
15 ug/L Water



Probability distribution of predicted blood leads from the IEUBK model at 5 and 15 ug/L lead water levels. Assumes 100% water intake for child at a constant water lead level.

Maine Department of Health and Human Services

Results from EPA's IEUBK Model



Using the probability distributions illustrated in the prior slide, a plot of the percent probability of a blood lead level above 5 ug/dL associated with a water lead level and allowing for background exposure from diet, air, soil/dust. Assumes 100% of water consumption is at the modeled water concentration and concentration is constant.

Maine Department of Health and Human Services

For more Information

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