



APPLETREE



Choose Safe Places
for Early Care and Education
Planning. Guidance. Protection.



NH SoilSHOPs: Reducing Lead Exposures through Community Engagement

Robert Thistle, PhD.
NH Department of Environmental Services.





OUTLINE



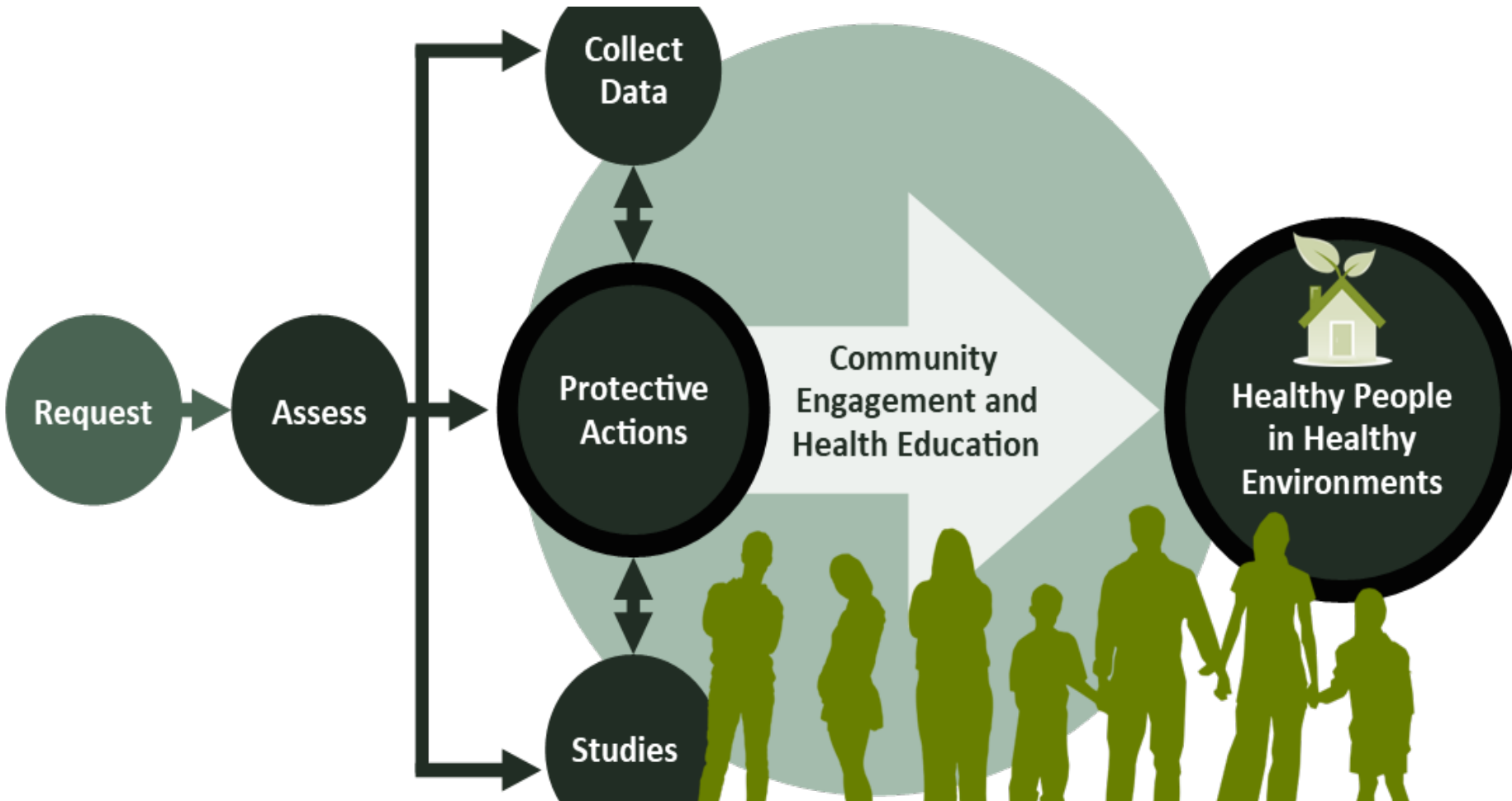
- Describing the goals of the APPLETREE and Choose Safe Places Programs
- Demonstrate examples of our outreach, education, and support in NH
- Highlight the lessons learned from NH's first SoilSHOP event
- Discuss future efforts



Screening | Health | Outreach | Partnership



PROCESS





PARTNERS



LETTER HEALTH CONSULTATION

HOOKSETT RESIDENTIAL WELL WATER
HOOKSETT, NEW HAMPSHIRE

Prepared by New Hampshire Department of Environmental Services

March 23rd, 2021

Prepared under a Cooperative Agreement with the
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Agency for Toxic Substances and Disease Registry
Division of Community Health Investigations
Atlanta, Georgia 30333

APPLETREE

Agency for Toxic Substances and Disease Registry's Partnership to Promote Local Efforts to Reduce Environmental Exposures

Routes of Exposure

Inhalation
(e.g., indoor, outdoor air, shower)

Ingestion
(food, water)

Skin/Eye Contact
(direct contact bathing/swimming)

Understanding Environmental Contamination and Risk (NH APPLETREE and Dartmouth)

NHDES 884 subscribers

APPLETREE

Selecting the right option for you!
A guide to ensuring safe drinking water

Why does the quality of my water matter?
Drinking contaminated water makes it more likely that you will experience negative health outcomes, including certain types of chronic disease. Contaminants can be naturally occurring (arsenic, uranium, etc.) or synthetic (PFAS, 1,4, dioxane, etc.). Residents served by public or community water systems are protected by rules, regulations and processes in place to ensure that the water they drink is safe; however, many residents in New Hampshire get their water from private wells. While there are guidelines and recommendations related to residential well water quality, testing and treatment are not required. Understanding the quality of your drinking water can help you to make informed decisions to protect the health of you and others in your household.

How do I know if my water is safe?
Residential well contamination is common, and most contaminants have no taste, smell or color. The only way to understand the quality of your water is to have it tested. NHDES recommends conducting a standard analysis and radon analysis every three to five years, and testing for bacteria and nitrate yearly. While we are still learning about the extent of PFAS contamination and about the health impacts of PFAS, NHDES recommends testing for PFAS contamination if you have the resources to do so. You should continue to test your water if you use a treatment system (see below) to ensure that your system is working properly. A list of [New Hampshire accredited labs](#) and recommended tests can be found on the [NHDES website](#).

I've tested my water, now what?
The New Hampshire [Be Well/Informed](#) site can help you to understand what treatment options would work for you based on the contaminants found in your water. There are many water treatment options available. **Water treatment options are not one-size-fits-all, so before investing in a choice, make sure that you've done the recommended testing!** NHDES staff can also offer assistance; the Drinking Water and Groundwater Bureau can be reached by calling [\(603\) 271-2513](#), or by emailing dwbinfo@des.nh.gov.

While your particular water quality is an important factor to consider, there are other considerations, including cost, whether or not there are people who are more at risk for negative health outcomes in your home (for example, babies or children, people with health conditions, etc.), your comfort level in terms of risk, and whether or not you are in need of a temporary solution (for example, if you are renting short-term or are scheduled to be connected to a public water system in the near future) or a longer-term solution. In addition to treating contaminated water, seeking an alternative source of water (such as bottled water) may be a temporary alternative solution to consider.

Depending on your particular circumstances, including the factors noted above, one solution may be a better fit for you than another. On the other side of this page, you will find a table with the pros and cons of different options, as well as questions that you can ask water treatment specialists so that you can make an informed decision that is right for you.

Agency for Toxic Substances and Disease Registry's Partnership to Promote Local Efforts to Reduce Environmental Exposures

EHP-21-03 Page 1 of 2

Decision making
in Assembly

Construction
Clean up



Childhood Lead Poisoning in NH: How to Keep Children Lead-Safe

Includes:

- 🕒 1 Hour
- ★ 0.10 CEUs
- 📁 13 Resources
- 📅 1 year unlimited access
- 📄 Certificate of completion
- 😊 Early childhood training approval



Choose Safe Places For Early Care and Education A NH APPLETREE Program



NH Choose Safe Places

- Comprehensive Advisory Board.
- Webinars and Training for Environmental Health Best Practices.
- Well water testing and remediation.
- Resources online and in print.

Choose Safe Places



SECTION 1: NH Choose Safe Places Private Well Water Testing Initiative: Steps for Free Water Testing

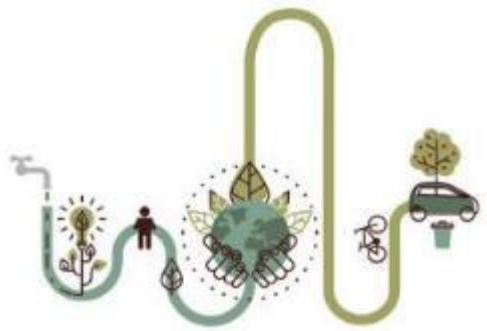
- 1. Start here!** This is where you need to go to learn more about the steps to take for the FREE water testing.
- 2. Why Should You Register?** Learn if contaminants of significant concern like radon, arsenic, uranium and PCBs are in your well water.
 - Find your CEU testing requirements.
 - Have your water samples delivered to the lab by your bucket, taking no out-of-pocket costs.
- 3. REGISTER!** Fill out the online form if you haven't already using the link: <https://bit.ly/3F8f86d>. Or you can print your phone camera or this QR Code.
- 4. Lots of Questions?** After you register, read the FAQ insert provided and see Section 2 on page 7 for answers to the questions popping into your head.
- 5. Put your Sampling Appointment into your CALENDAR!** Set a reminder for yourself with the date and time the NHDES Sample is coming to your facility.
- 6. On your Sampling Appointment DAY!** Before you run any water from any tap, collect the water sample for transport lead by following the instructions provided (either collection bottles and instructions will be mailed to you before your sampling date). The NHDES Sample will take all water samples including the lead sample bottles you collected back to the lab for you. See page 13 for details.
- 7. Review your test RESULTS!** Your test results will be mailed to you 4-6 weeks after your samples have been collected. The results will tell you if any of the contaminants in your water are above the safe standard.
- 8. How do you KNOW if your water is safe or not?** If you see a **NEED** to test a contaminant in your results letter you will know that a Contaminant is over the safe standard. Go to page 9 for information on next steps if your water is unsafe. Go to page 14 for information on types of treatment.
- 9. What do I NEED to do with the water TEST RESULT?** If your test results indicate that your water is not over the standard you will see a **GREEN**. If you test results later in safe place where the safe test results you have your annual inspection from the CEU or your local health officer. Every three years, your test results must be re-confirmed over the safe standard. **NEED** is:
 - CEU has CEU 1980 you may need to do a corrective action plan within 30 days of learning your water is over safe standard—see page 16.
 - NHDES for all test results over the safe standard.
 - The parents of the children you care for recommend.
- 10. How do I know what type of treatment I NEED?** See page 14 for information on using the Be Well informed online tool to learn which type of treatment will remove the contaminants in your water. See page 16 for information on treatment types and the contaminants they remove. Contact Cindy Reeves, NHDES, 800.275.2948, creeves@des.nh.gov or any location: NHDES, 9001 275.3196, any c.bolton@des.nh.gov for additional help.
- 11. How do I pay for TREATMENT?** See page 16 for information on funding options for water treatment.
- 12. Who can HELP ME?** Contact Laurie Rende, Choose Safe Places Program Leader, 800.275.3137 or lrende@des.nh.gov, for any assistance you need!



Unit Bureau of Childhood Development Early Care Providers Health Officers



APPLETREE SOILSHOPS



Reducing Lead Exposure

- Lead naturally occurs in soil at low levels
- Lead is more prevalent in soils of urban areas
- Lead exposure can impact children’s health: neurodevelopmental and cognitive effects
- Lead can also come from paint, dust, and water sources



“How concerned are you about risks to your health posed by the environment?”



“ There is no safe level of lead for a child like my son, who eats dirt and puts everything in his mouth. ”



www.cdc.gov/nceh/lead/docs/flyer-lead-in-soil.pdf



APPLETREE SoilSHOPS



Why Conduct a SoilSHOP?

- Identifies soil areas that may need further investigation
- Fosters community involvement and empowerment
- Builds/strengthens relationships between community and state/local partners



“How concerned are you about risks to your health posed by the environment?”



www.cdc.gov/nceh/lead/docs/flyer-lead-in-soil.pdf



APPLETREE SOILSHOPS



Planning
• Connect
• Finding
• Low
• Adver
• Gener

LEAD POISONING **LEAD IN SOIL**

Ways To Reduce Lead In Soil
Focus on these higher risk areas when looking for lead in your soil.

Play Areas

- Keep play areas away from structures with lead paint
- Cover bare soil & play areas with ground cover
- Provide a clean sandbox for children

Vegetable Gardens

- Replace top 10" of soil with clean soil
- Keep soil moist to limit dust
- Scrub any vegetables grown in the garden before eating
- Keep soil from being too acidic
- Wear gloves when working in soil

Drip zone

- A drip zone is the 3-foot area that surrounds the house
- A drip zone usually has the highest levels of lead because of exterior chipping and flaking paint
- Remove the top 10" of drip zone soil
- Plant shrubs right around the house to keep kids out of the drip zone
- Fence up the area or cover with landscape fabric and mulch

Walkways

- Avoid bringing lead-leaded soil from walkways into the home
- Cover soil walkways with gravel, stone, brick, or concrete

LEAD IN SOIL IS A PROBLEM
The only way to know if there is lead in your soil is to get it tested

Most people think of old paint when they hear about lead poisoning, but lead in soil can also be harmful to children and when consumed, can impair their ability to think, concentrate and learn. Lead poisoning is entirely preventable. Lead in soil comes from flaking paint, years of factory pollution and leaded gasoline in cars. Lead arsenate was also used as a pesticide in orchards. When lead gets in soil it does not wash away or dissolve; it lasts forever.

RISKS FOR YOU AND YOUR FAMILY
You can be exposed to lead in soil in many ways

- Children often play in soil and mud, and may put leaded dirt from their hands & toys into their mouths
- People bring in lead from outside on their shoes
- Pets can bring home leaded soil on their fur & paws

PROTECTING YOUR FAMILY
Lead in soil is dangerous and can enter your home

- Choose plants, shrubs, and ground cover that will keep children away from bare soil
- Place a rug at each entry door to stop dirt from tracking in
- Take shoes off at the door
- Wash hands and fingernails after playing outside
- Wash yard toys before bringing them inside, or just leave the yard toys outside
- Wipe pet's paws off when they come inside
- Park cars on a paved area or in one place, as parking cars in the yard stops grass from growing, which creates bare soil and dust

June 2023

NH Department of Health & Human Services, Division of Public Health Services

1-800-897-LEAD or LeadRN@dhs.nh.gov

Federal and State Partners:

FREE SOIL SCREENING FOR LEAD
EVALUACIÓN GRATUITA DE PLOMO EN EL SUELO

Downtown Nashua Farmers Market
Nashua Public Library Parking Lot:
6 Hartshorn Ave, Nashua, NH
Sunday, June 25, 2023; Time: 10am - 2pm

Bring a dry soil sample in a sealable plastic bag and we will screen it for lead!

Traiga una muestra de suelo seco en una bolsa sellada y le haremos un análisis de detección de plomo!

Scan me!



APPLETREE SOILSHOPS



soilSHOP Log In Form

Log in Time: _____ Sample #1 Number: _____
 Begin XRF Time: _____

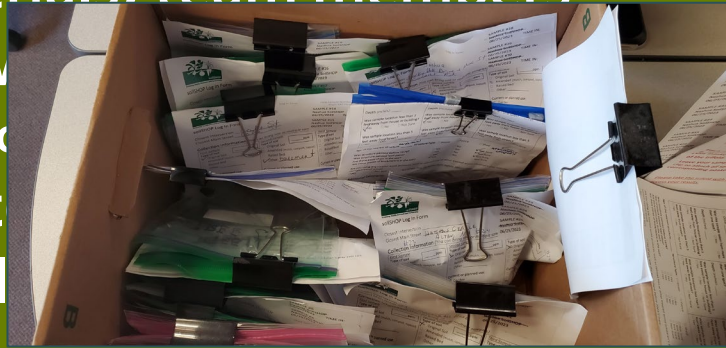
Sample #2 Number: _____
 Begin XRF Time: _____

Sample #3 Number: _____
 Begin XRF Time: _____

Closest Intersection: _____
 Closest Main Street: _____

Collection Information (You can bring one or multiple samples)

Sample #1	Sample #2	Sample #3
Type of soil _____ ppm	Type of soil _____ ppm	Type of soil _____ ppm
<input type="checkbox"/> Original Soil	<input type="checkbox"/> Original Soil	<input type="checkbox"/> Original Soil
<input type="checkbox"/> Amended (mulch, compost, topsoil)	<input type="checkbox"/> Amended (mulch, compost, topsoil)	<input type="checkbox"/> Amended (mulch, compost, topsoil)
<input type="checkbox"/> Raised Bed	<input type="checkbox"/> Raised Bed	<input type="checkbox"/> Raised Bed
<input type="checkbox"/> Other: _____	<input type="checkbox"/> Other: _____	<input type="checkbox"/> Other: _____
Current or planned use:	Current or planned use:	Current or planned use:
<input type="checkbox"/> Garden	<input type="checkbox"/> Garden	<input type="checkbox"/> Garden
<input type="checkbox"/> Play Area	<input type="checkbox"/> Play Area	<input type="checkbox"/> Play Area
<input type="checkbox"/> Other: _____	<input type="checkbox"/> Other: _____	<input type="checkbox"/> Other: _____
Was this sample taken from more than one spot? <input type="checkbox"/> Yes <input type="checkbox"/> No	Was this sample taken from more than one spot? <input type="checkbox"/> Yes <input type="checkbox"/> No	Was this sample taken from more than one spot? <input type="checkbox"/> Yes <input type="checkbox"/> No
Depth (inches): _____	Depth (inches): _____	Depth (inches): _____
Was sample location less than 5 feet away from house or building? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure	Was sample location less than 5 feet away from house or building? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure	Was sample location less than 5 feet away from house or building? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure
Was sample location less than 5 feet away from street? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure	Was sample location less than 5 feet away from street? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure	Was sample location less than 5 feet away from street? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure
Age of the nearest structure: _____ Structure type: <input type="checkbox"/> House <input type="checkbox"/> Fence <input type="checkbox"/> Shed <input type="checkbox"/> Other		
Was structure painted before 1978? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure		
Was structure painted lead paint? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure		
Are there paint chips in the soil? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure		
Are there pieces of brick/debris in the soil? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Sure		
Are you using any treated wood products, such as railroad ties or other treated wood (children's play-sets can contain treated wood). <input type="checkbox"/> No <input type="checkbox"/> Not Sure <input type="checkbox"/> Yes (if yes, was the wood there before 2003?) Date: _____		
Additional Comments: _____		



Ready to help community members submit samples:



“How are you to you pose enviro

materials team members



APPLETREE SoilSHOPS



“How concerned are you about risks to your health posed by the environment?”



Health

- Protected
- Soils
- Potential
- Guidance

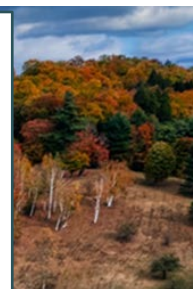
Sample ID#	Risk Guidance Category
1	✓
2	✓
3	✓
4	✓
5	✓
6	✓
7	✓
8	✓
9	✓
10	✓
13	✓
14	⚠
15	⚠
16	✓
17	✓
18	✓
19	✓
20	✓
21	✓
22	✓

Sample ID#	Risk Guidance Category
23	✓
24	✓
25	⚠
26	✓
27	✓
28	✓
29	✓
30	✓

RESULTS Legend

Soil Lead Concentration Ranges (parts per million, or ppm)	Risk Guidance Category
0 – 99	✓
100 – 399	⚠
400 +	✗

For more information:
Robert Thistle, PhD.
Robert.Thistle@des.nh.gov
[NH APPLETREE Program](#)



Federal and State Partners:



Operator places XRF equipment directly on soil sample.

Reading will be shown on the screen and operator logs the results accordingly.

APPLETREE Soil



“How concerned are you about risks to your health posed by the environment?”






Benefits of a raised bed garden

1. Raised bed gardens improve soil drainage, allowing soil to dry and warm faster in the spring. They provide a better environment for growing perennial crops that need well-drained soils (like raspberries).
2. Raised bed gardens contain clean soil, allowing you to plant in areas where soil may be contaminated.
3. Raised bed gardens can fit neatly into small spaces, allowing for gardening on limited land.
4. Raised bed gardens can keep garden soil from washing away due to water runoff especially in areas close to storm drains.



Mal

-
-
-
- **Providing follow up and contact information**

Result	Risk Guidance Category	Recommendation: Gardening Practices	Recommendation: Choosing Plants
	Low Risk	<ul style="list-style-type: none"> • No action needed. • Continue good gardening and home health practices, including washing produce, and washing hands and clothes after gardening. 	<ul style="list-style-type: none"> • No restrictions of crop types.
	Potential Risk	<ul style="list-style-type: none"> • Relocate garden to lower risk garden areas: farther from structures like the home or road. • Increase use of supplemental materials for soil (e.g., compost clean fill), barriers (e.g., mulch), and other remedial measures including raised beds and containers. • Wear gloves and use gardening tools to reduce touching soil. • After gardening, remove shoes and other clothing before entering the home. • Continue good gardening and home health practices described in the low-risk guidance above. 	<ul style="list-style-type: none"> • Decrease planting of root vegetables or relocate root crop planting to lower risk areas: farther from structures like the home or road. • Increase planting of non-root/fruiting vegetables, such as vegetables that grow on vines, and fruit trees.
	High Risk	<ul style="list-style-type: none"> • Use raised beds, or containers with clean replacement soil. • Replace soil in garden area if you are going to continue to use it (i.e., excavate contaminated soil and replace with soil containing low lead concentrations). • Consider finding other locations for garden: farther from structures like the home or road, or off the property. • Restrict child access to contaminated area. • Restrict all gardening by or for children in contaminated soils. • After gardening, remove shoes and other clothing before entering the home. • Continue good gardening and home health practices described in the low-risk guidance above. 	<ul style="list-style-type: none"> • Do not grow root vegetables in this soil. Create a raised bed. Or create areas with replacement soil to ensure that roots do not reach contaminated soil that is left in place.

rs:

ad



APPLETREE SoilSHOPS



What about
Lead in my
water?

Will you still
be here in
an hour?

I'm from
outside of
Nashua!

A Few Lessons Learned

- People will come for the soil screening, but will definitely stay and chat
 - Recruit them for other programs!
- Bring bags for people who are local
- Provide options for people with limited access

Federal and State Partners:

- ATSDR
- US EPA
- Healthy Homes and Lead Poisoning Prevention Program (NH DPHS)
- Nashua Department of Public Health
- Grow Nashua



“How concerned are you about risks to your health posed by the environment?”



REVIEW



- Types of support offered by APPLETREE/ Choose Safe Places
- Using partnerships to engage communities
- What a SoilSHOP event is and how to hold one with us or on your own
- How to reduce exposure to Lead in soil



- Ross Malcom (DPHS)
- Cynthia Klevens (NHDES)
- Samuel Harris (DPHS)
- Margaret McCallum (EPA)
- Christopher Mugford (ATSDR)



QUESTIONS





APPLETREE



NH SoilSHOPs: Reducing Lead Exposures through Community Engagement

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(603-271-1417)

<https://www.des.nh.gov/home-and-recreation/your-health-and-environment/new-hampshire-appletree>

