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# BUNKER HILL SUPERFUND SITE 2024 BLOOD LEAD LEVELS

PANHANDLE HEALTH DISTRICT

IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

**MAY 28, 2025**



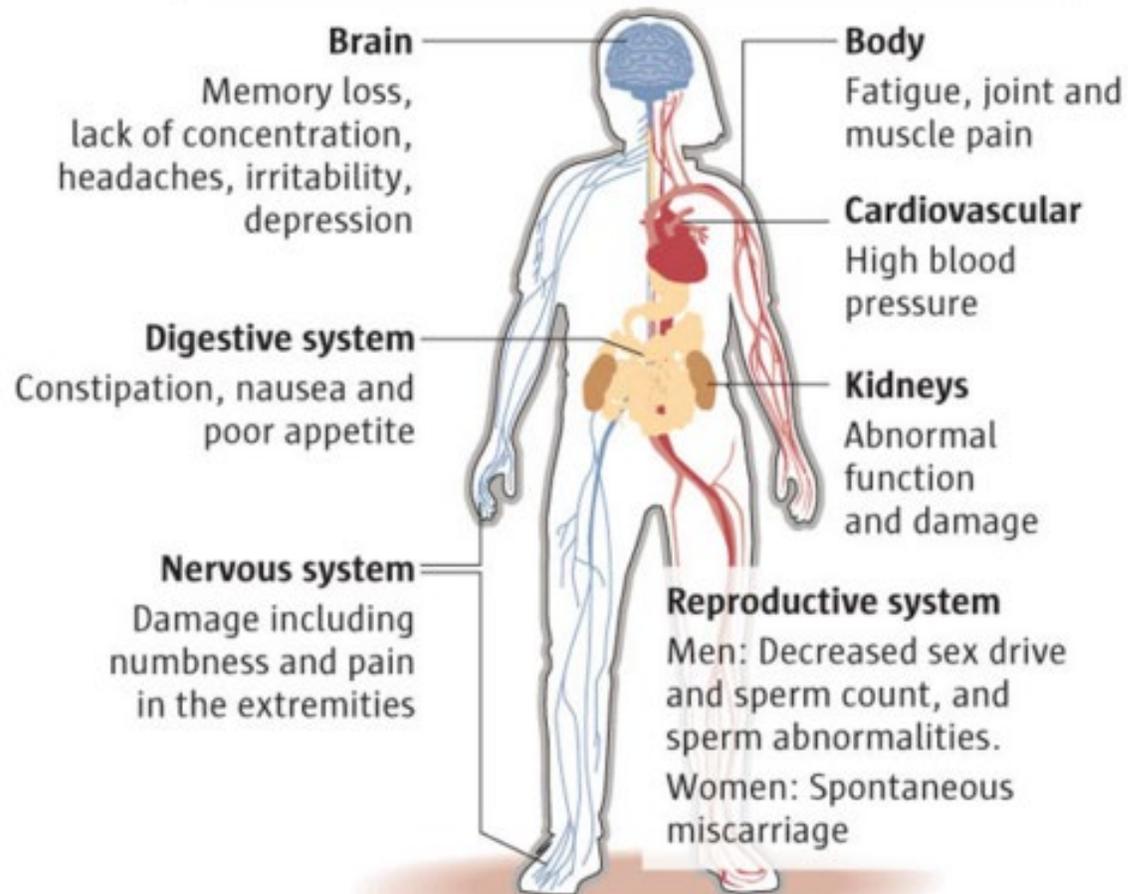


# PRESENTATION OUTLINE

- HEALTH EFFECTS OF LEAD
- LEAD HEALTH INTERVENTION PROGRAM (LHIP) BACKGROUND
- 2024 LHIP APPROACH
- 2024 LHIP RESULTS

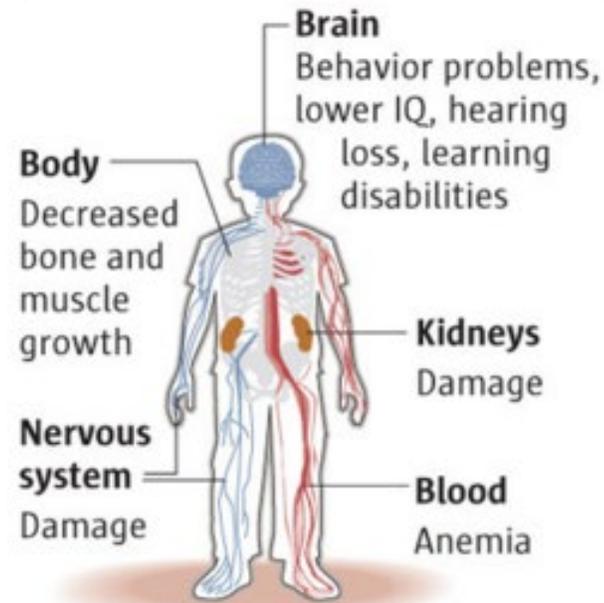
# HEALTH EFFECTS OF LEAD

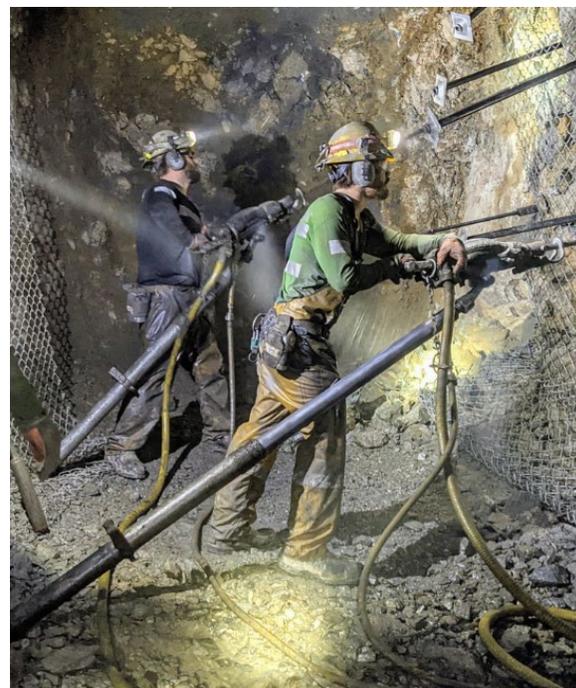
## ADULTS



Most common exposure route:  
incidental ingestion

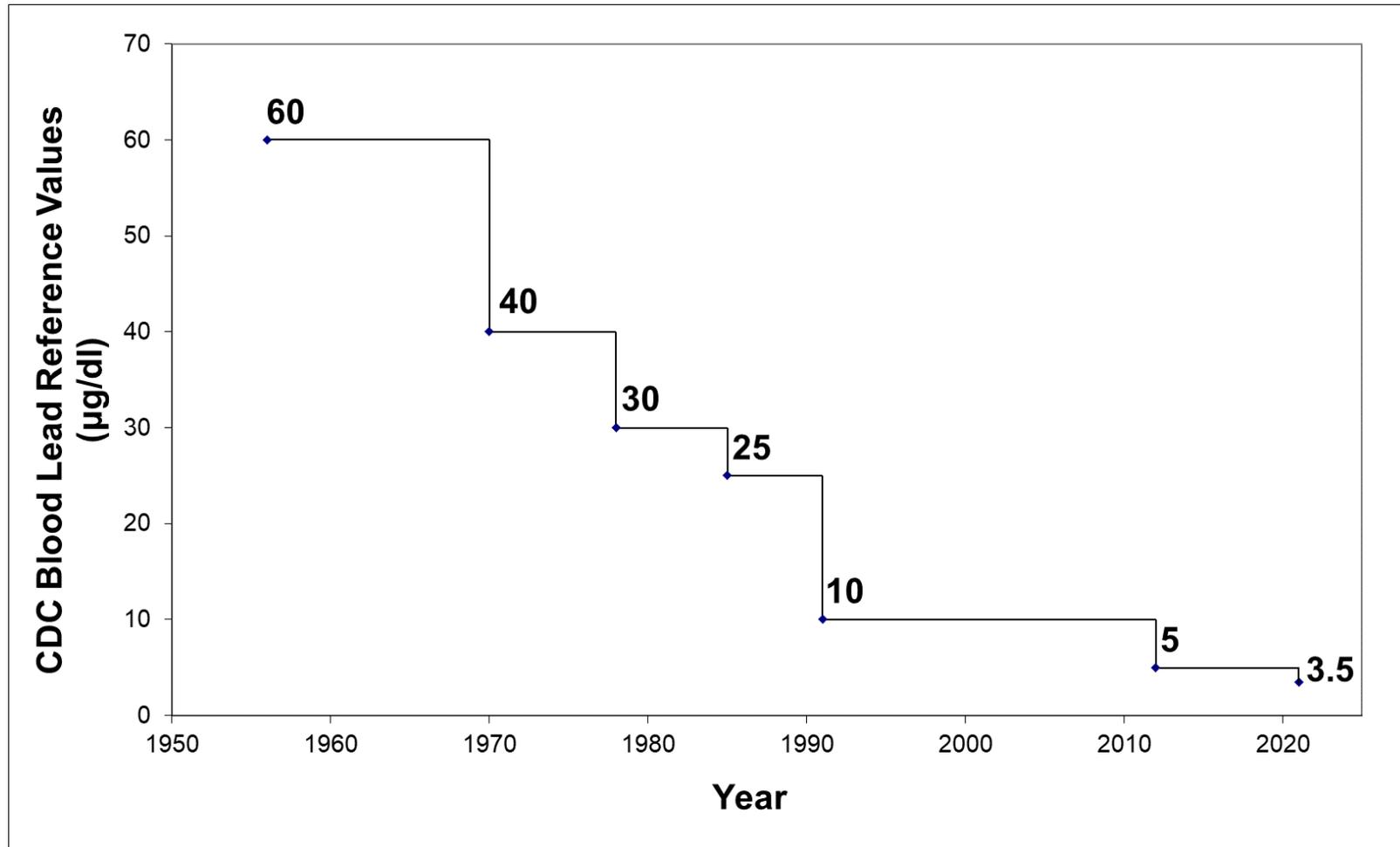
## CHILDREN





## AT RISK POPULATIONS

# DECREASING “ELEVATED” BLOOD LEAD LEVELS



Blood Lead Concentrations Considered to be Elevated by the Centers for Disease Control and Prevention.

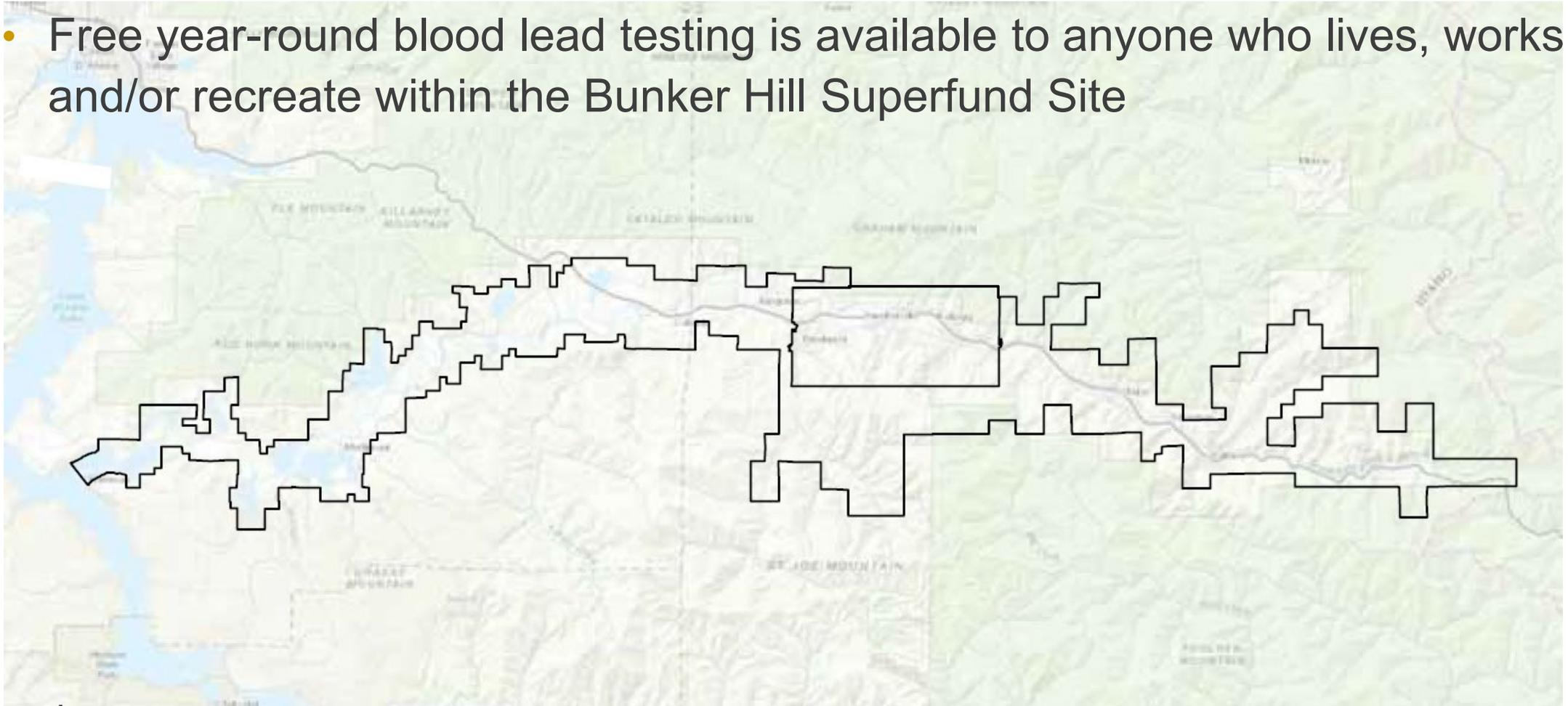
# LEAD HEALTH INTERVENTION PROGRAM (LHIP)

- Public health service
- Not a study or experiment
- Box since 1974/1985
- Basin since 1996



# LHIP PARTICIPANT CRITERIA & INCENTIVE

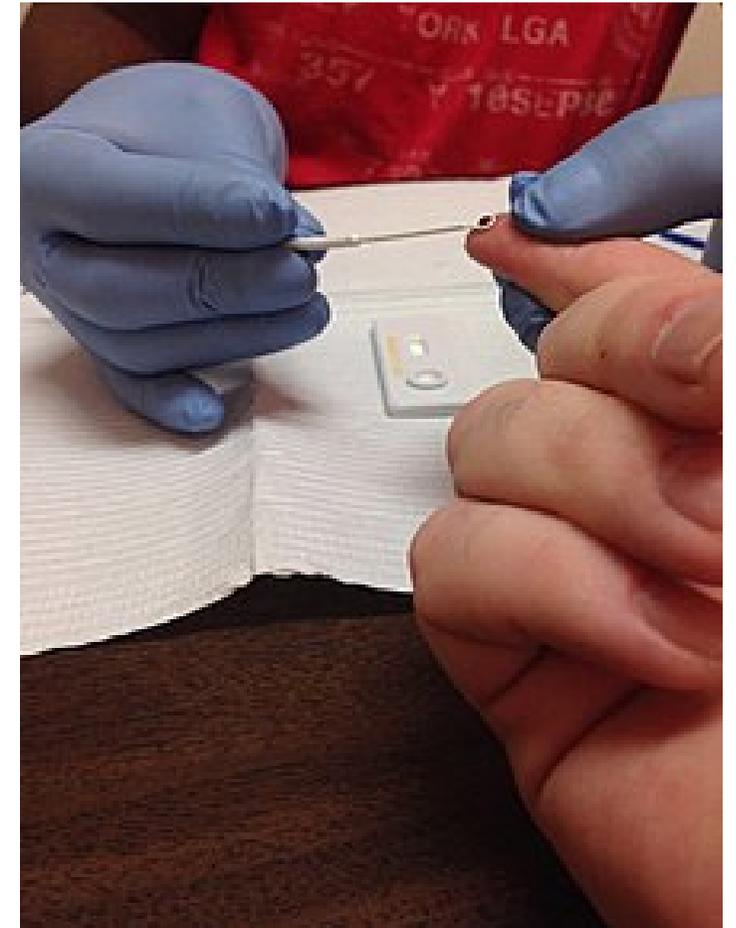
- Free year-round blood lead testing is available to anyone who lives, works, and/or recreate within the Bunker Hill Superfund Site



- **\$50.00 cash incentive** for resident participants 6 months - 6 years of age

# 2024 LHIP APPROACH

- Informed consent
- Blood test offered by either:
  - Venous
  - Capillary (i.e., fingerstick [FS])
- If FS  $\geq 3.5$   $\mu\text{g}/\text{dL}$  then venous confirmation test
- Offer consultations and follow-up with all children  $\geq 3.5$   $\mu\text{g}/\text{dL}$



# 2024 LHIP APPROACH

- Screening offered in August, similar to past 30+ years
- Additional screenings held at community events that also offered incentive money:
  - Walk-ins throughout spring/summer/fall
  - Kellogg Elk's Club Blood Drive, June 4
  - Kellogg Elk's Club Blood Drive, October 1

# 2024 SCREENING EVENTS

		Number of Participants*			
		June 4	August ‡ (8/12-8/17)	Oct 1	Walk-ins Referrals
Area	Age				
Basin	6 months through 6 yrs	0	125	0	15
	7+ yrs	9	53	7	8
Box	6 months through 6 yrs	0	141	0	2
	7+ yrs	4	69	4	7
All	6 months through 6 yrs	0	266	0	17
	7+ yrs	13	122	11	15

\*An additional 27 people (target and non-target individuals) participated who resided outside the BHSS.

‡ “Typical” screening event

# 2024 RESULTS IN “THE BOX”

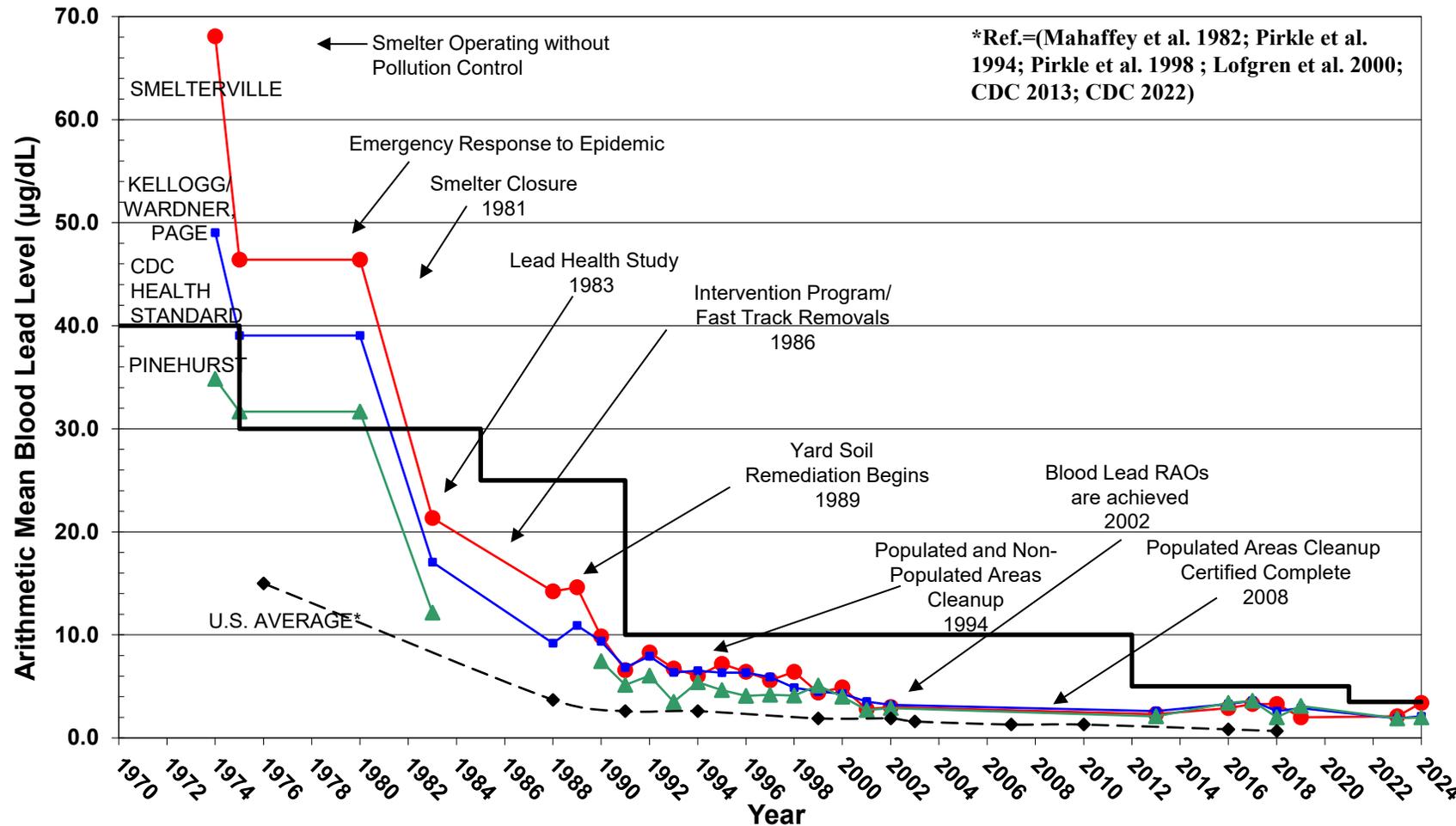
OPERABLE UNITS (OU) 1 & 2



# BOX REMEDIAL ACTION OBJECTIVES

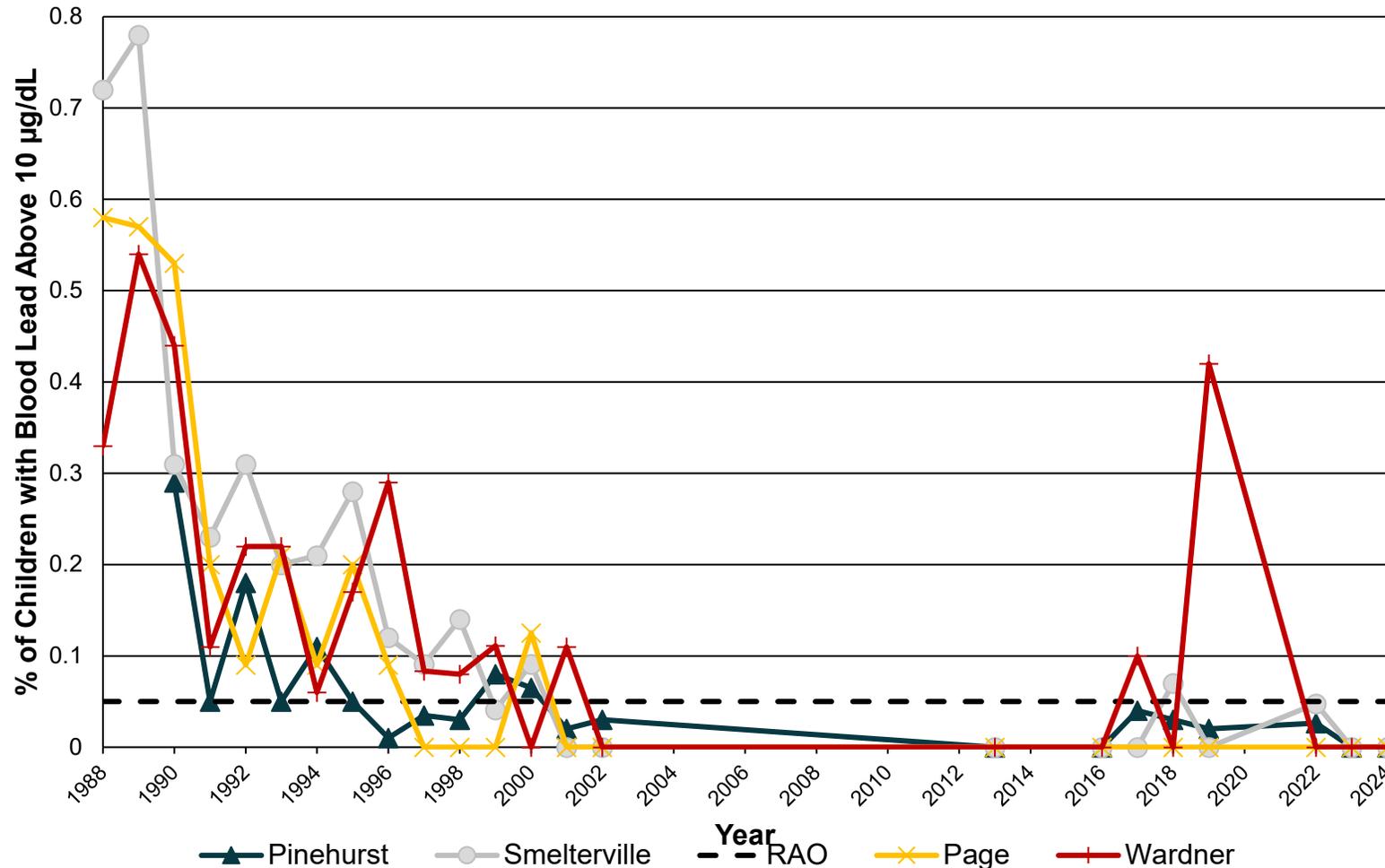
- No more than 5% of children in each community have blood lead levels  $\geq 10 \mu\text{g/dL}$
- Less than 1% with blood lead levels  $\geq 15 \mu\text{g/dL}$

# BUNKER HILL BOX AVERAGE BLOOD LEAD: 1974-2024\*



\*not enough samples in 2003-2012, 2014, 2015, 2020, & 2020-2022

# PERCENT OF BOX CHILDREN WITH BLOOD LEAD LEVELS $\geq 10$ UG/DL, BY CITY, 1988-2024\*



\*not enough samples in 2003-2012, 2014, 2015, 2020, & 2021

Since 1998,  $\leq 10$  participants/year in Page & Wardner

Note: Data from 2003 through 2012, 2014, and 2015 are not displayed because there were few participants. Since 1998, there have been  $\leq 10$  participants per year from Page and Wardner.

# 2024 BLOOD LEAD SUMMARY STATISTICS\*: BOX (AGE 6 MONTHS THROUGH 6 YEARS)

Total Number of Children (N)*	141
Minimum (µg/dL)	<1.9
Maximum (µg/dL)	7.6
<b>Average (µg/dL)</b>	<b>2.2</b>
Standard Deviation	1.2
<b>Geometric Mean (µg/dL)</b>	<b>1.9</b>
Geometric Standard Deviation	1.6
Number / Percent Below Detection	84 (60%)

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	<b>Number*</b>	<b>Percentage*</b>
Children's blood lead $\geq$ 3.5 µg/dL	19	13.5%
Children's blood lead $\geq$ 5 µg/dL	6	4.3%
Children's blood lead $\geq$ 10 µg/dL	0	0%
Children's blood lead $\geq$ 15 µg/dL	0	0%

\*August event only.

# 2024 BLOOD LEAD SUMMARY STATISTICS\*: BOX (OTHER NON-ELIGIBLE PARTICIPANTS\*)

Total Number of Participants (N)*	69
Minimum (µg/dL)	<1.9
Maximum (µg/dL)	8
Average (µg/dL)	1.9
Standard Deviation	1.2
Geometric Mean (µg/dL)	1.8
Geometric Standard Deviation	1.5
Number / Percent Below Detection	48 (70%)

	<b>Number *</b>	<b>Percentage *</b>
Blood lead ≥ 3.5 µg/dL	4	5.8%
Blood lead ≥ 5 µg/dL	3	4.3%
Blood lead ≥ 10 µg/dL	0	0%
Blood lead ≥ 15 µg/dL	0	0%

\*7+ years old. \*August event only.



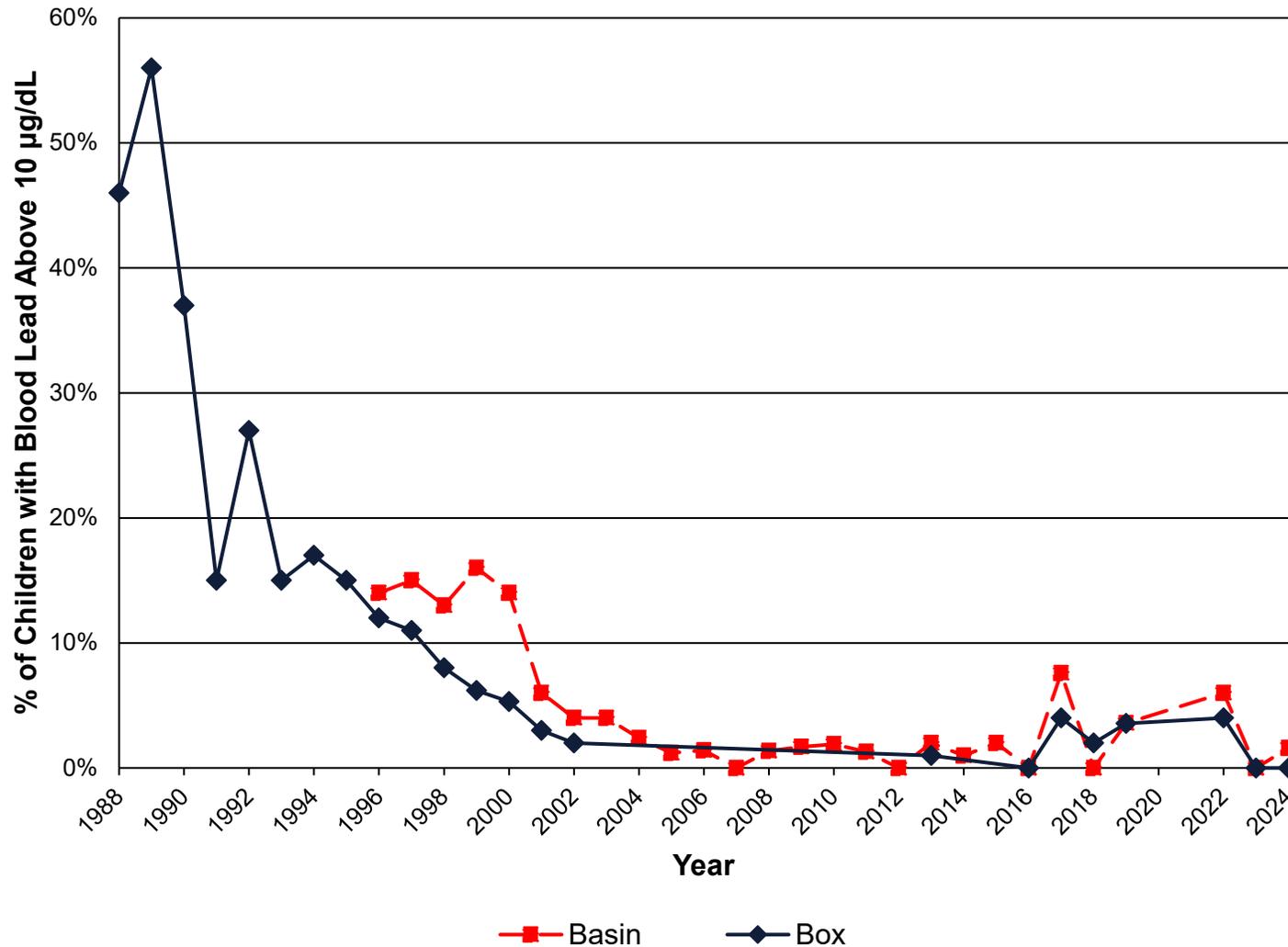
# 2024 RESULTS IN "THE BASIN"

OPERABLE UNIT (OU) 3

# BASIN REMEDIAL ACTION OBJECTIVES

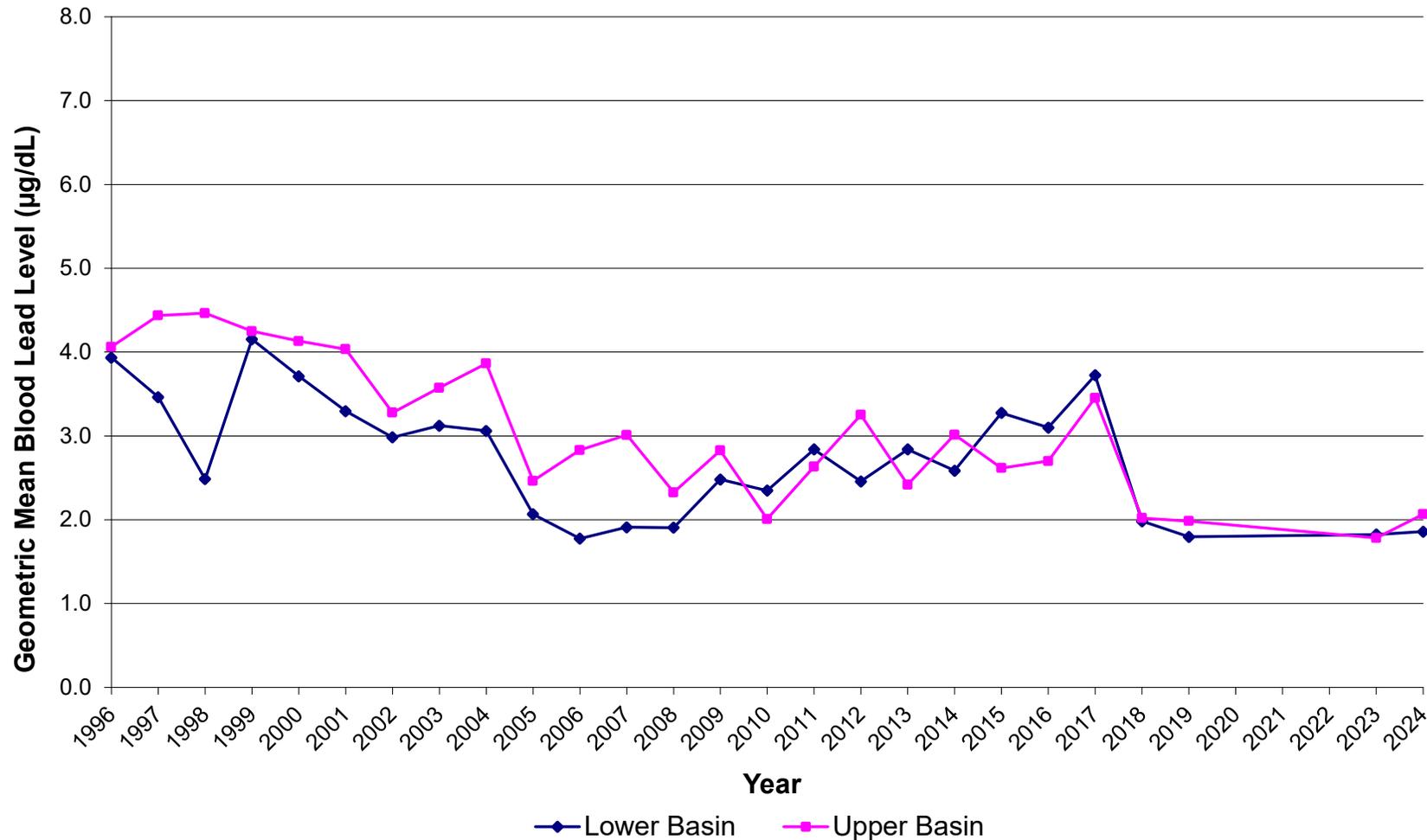
- Reduce exposures to soils with concentrations greater than:
  - Lead:  $\geq 700$  mg/kg
  - Arsenic:  $\geq 100$  mg/kg
- Reduce exposures to lead in house dust
- Cumulative exposures do not exceed USEPA's health risk goals:
  - **<5% chance that a typical child at an individual residence does not exceed 10  $\mu\text{g}/\text{dL}$**

# PERCENT OF CHILDREN WITH BLOOD LEAD LEVELS $\geq 10$ UG/DL, BOX AND BASIN, 1988-2024\*



\*not enough samples in 2020 & 2021

# BASIN AVERAGE BLOOD LEAD LEVELS BY YEAR, 1996-2024\*



\*not enough samples in 2020-2022

# 2024 BLOOD LEAD SUMMARY STATISTICS\*: BASIN (AGE 6 MONTHS THROUGH 6 YEARS)

Total Number of Children (N)*	125
Minimum (µg/dL)	<1.9
Maximum (µg/dL)	14.8
<b>Average (µg/dL)</b>	<b>2.4</b>
Standard Deviation	2.0
<b>Geometric Mean (µg/dL)</b>	<b>2.0</b>
Geometric Standard Deviation	1.7
Number / Percent Below Detection	78 (62%)

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	<b>Number*</b>	<b>Percentage*</b>
Children's blood lead $\geq$ 3.5 µg/dL	19	15.2%
Children's blood lead $\geq$ 5 µg/dL	9	7.2%
Children's blood lead $\geq$ 10 µg/dL	2	1.6%

\* August event only. Two residents outside the BHSS boundary participated and are not included above.

# 2024 BLOOD LEAD SUMMARY STATISTICS\*: BASIN (OTHER NON-ELIGIBLE PARTICIPANTS\*)

Total Number of Participants (N)*	53
Minimum (µg/dL)	<1.9
Maximum (µg/dL)	20
Average (µg/dL)	2.3
Standard Deviation	3.0
Geometric Mean (µg/dL)	1.8
Geometric Standard Deviation	1.7
Number / Percent Below Detection	40 (76%)

	Number *	Percentage *
Blood lead ≥ 3.5 µg/dL	5	9.4%
Blood lead ≥ 5 µg/dL	2	3.8%
Blood lead ≥ 10 µg/dL	2	3.8%
Blood lead ≥ 15 µg/dL	1	1.9%
Blood lead ≥ 20 µg/dL	1	1.9%

\*7+ years. August event only. Three residents outside the BHSS boundary participated and are not included above.  
Note: minimum value was less than (<) the detection limit.

# 2024 FOLLOW-UPS CONDUCTED (BOX & BASIN)

- **In-home follow ups: 15**
- **Phone consultations: 39**
- **Letters sent with more information: 49**

## Identified sources:

- Recreating in un-remediated areas
  - Additional outreach & follow safety tips to reduce exposure
- Occupational related
  - PHD will attempt to work with industries to provide education and provide tips on how to reduce exposure at work and reduce tracking
- Lead based paint
  - Conduct assessment & address if needed

QUESTIONS?



# ESTIMATED 2024 LHIP PARTICIPATION RATES

	<b>Basin</b>	<b>Box</b>
Estimated Eligible Population <sup>a</sup>	501	389
Total No. of Eligible Population Providing Samples in 2023	125	141
<b>Estimated Percentage of Population Providing Samples</b>	<b>25%</b>	<b>36%</b>

<sup>a</sup> Eligible population is 6 month through 6 year old children living in the Box or Basin, based on estimates from 2024.

# 2024 LHIP PARTICIPANTS & PROPERTY REMEDICATION STATUS

Property Remediation Status	Number of Children <sup>a</sup>	
	Basin	Box
No remedial action required or Remediated	116	133
Requires remediation or sampling	0	1
Not eligible for residential remediation program <sup>b</sup>	9	7
<b>Total</b>	<b>125</b>	<b>141</b>

<sup>a</sup> Eligible population is 6 month through 6 year old children living in the Box or Basin.

<sup>b</sup> Includes properties developed under the ICP and properties currently under development.