

BUNKER HILL SUPERFUND SITE 2024 BLOOD LEAD LEVELS

PANHANDLE HEALTH DISTRICT

IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

MAY 28, 2025



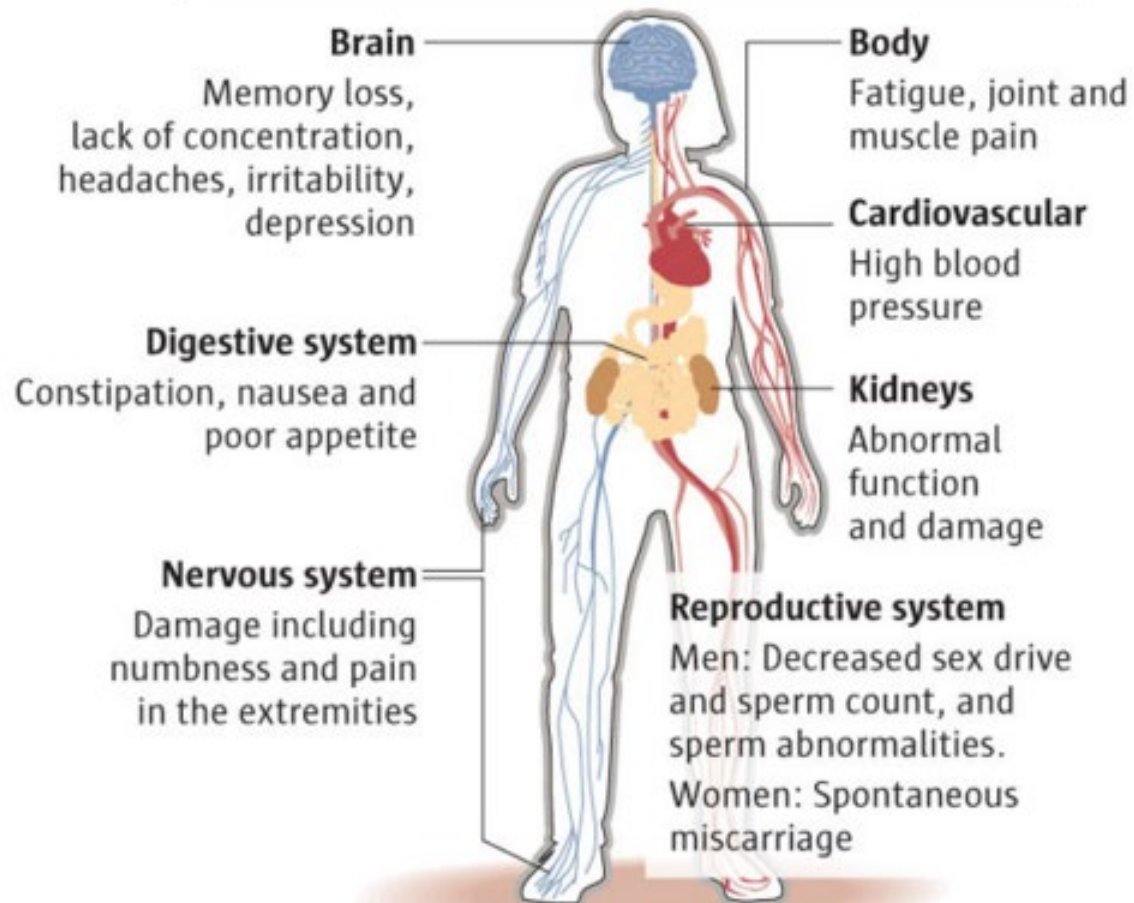


PRESENTATION OUTLINE

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

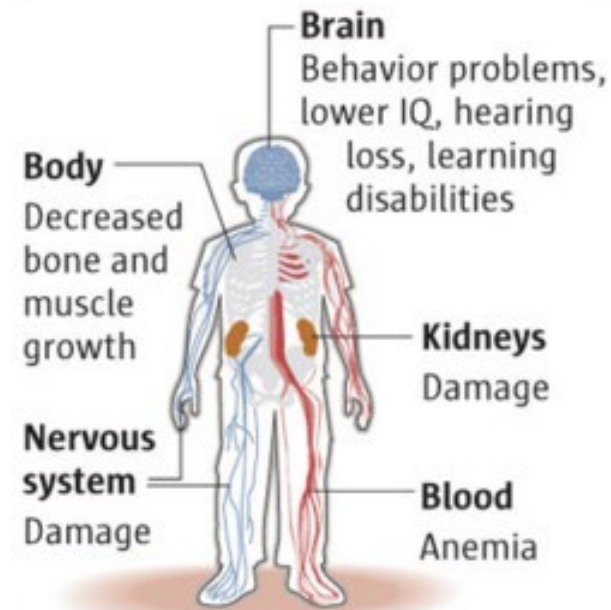
HEALTH EFFECTS OF LEAD

ADULTS



Most common exposure route:
incidental ingestion

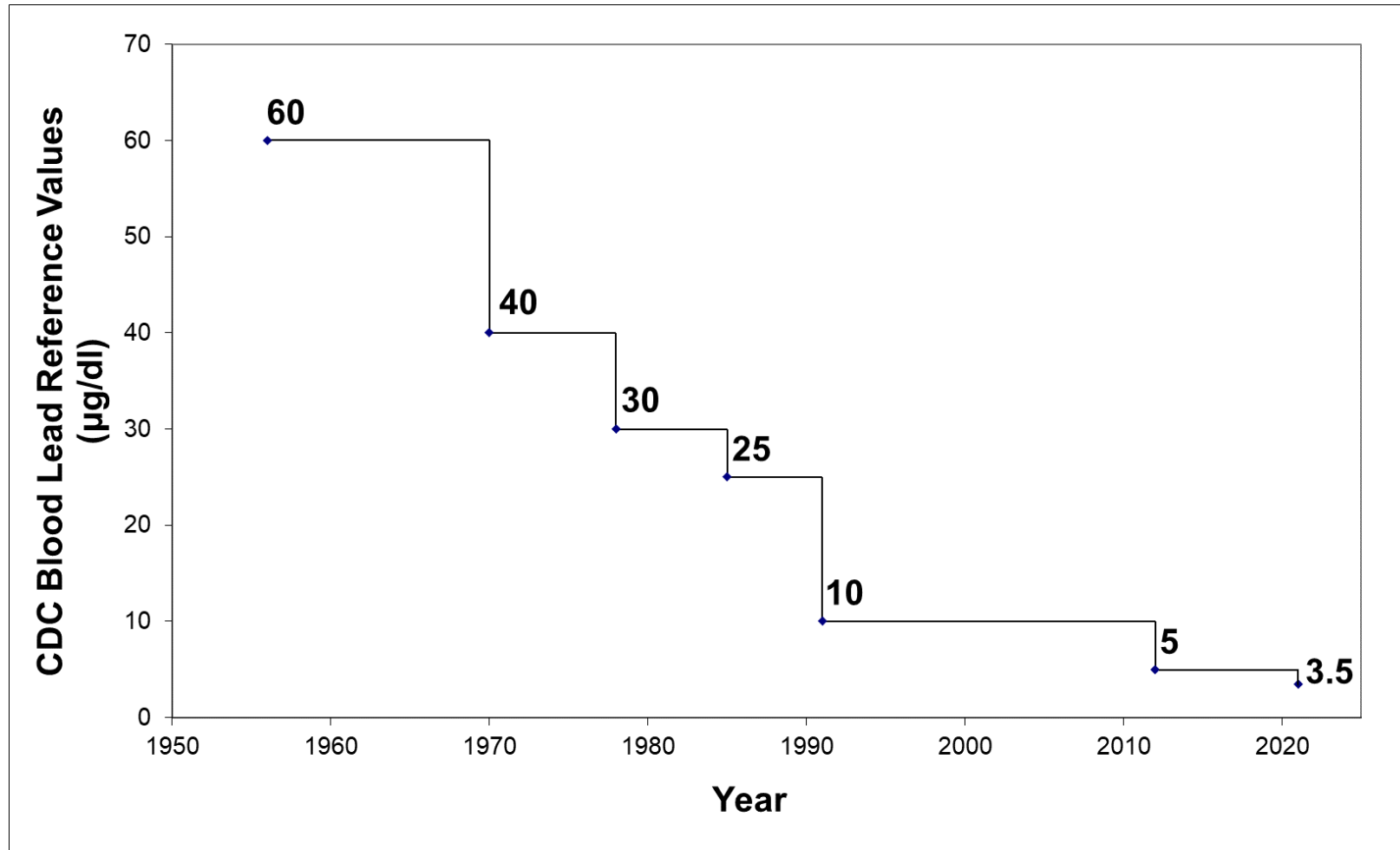
CHILDREN





AT RISK POPULATIONS

DECREASING “ELEVATED” BLOOD LEAD LEVELS



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

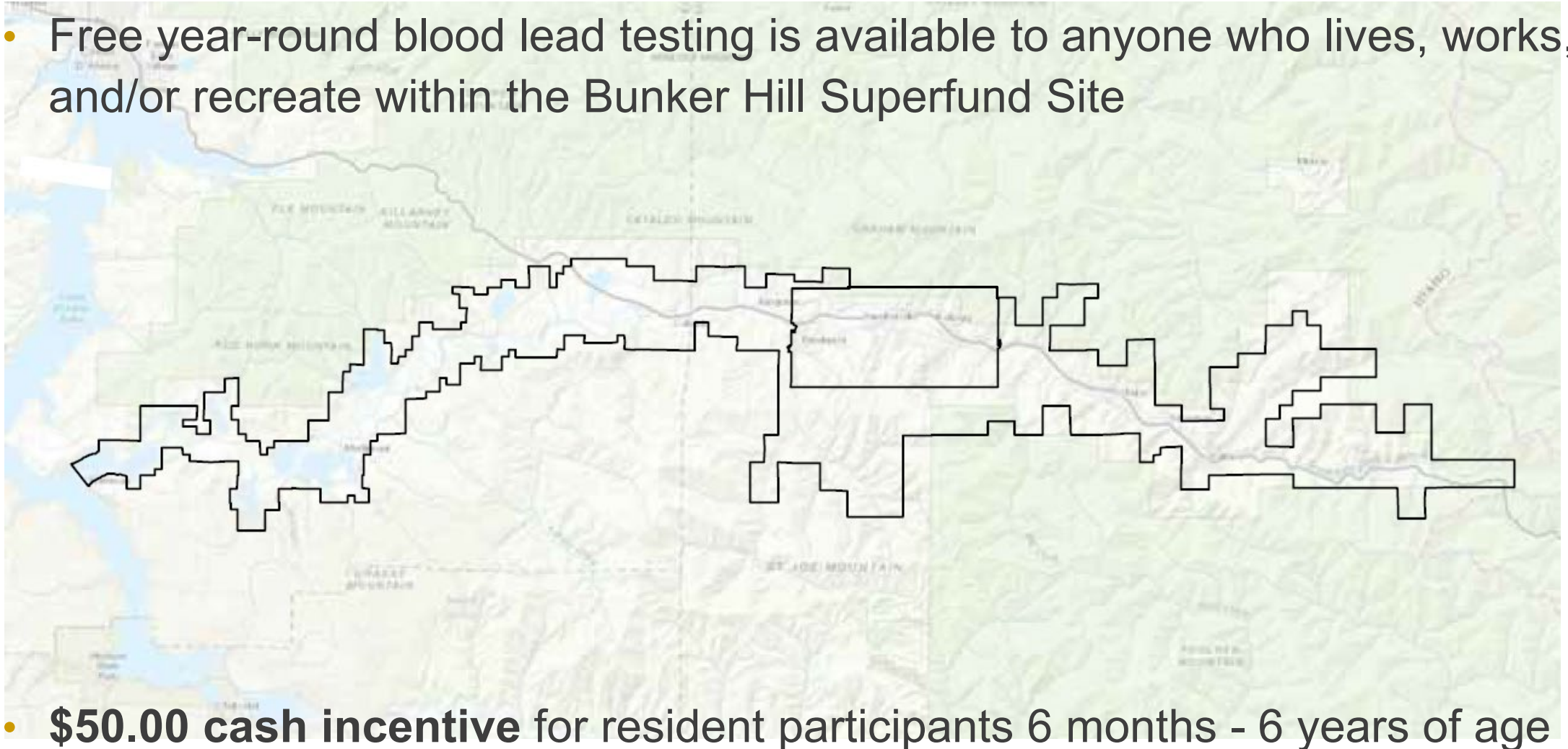
LEAD HEALTH INTERVENTION PROGRAM (LHIP)

- 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 ≥ 3.5 $\mu\text{g/dL}$ then venous confirmation test
- Offer consultations and follow-up with all children ≥ 3.5 $\mu\text{g/dL}$



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
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”

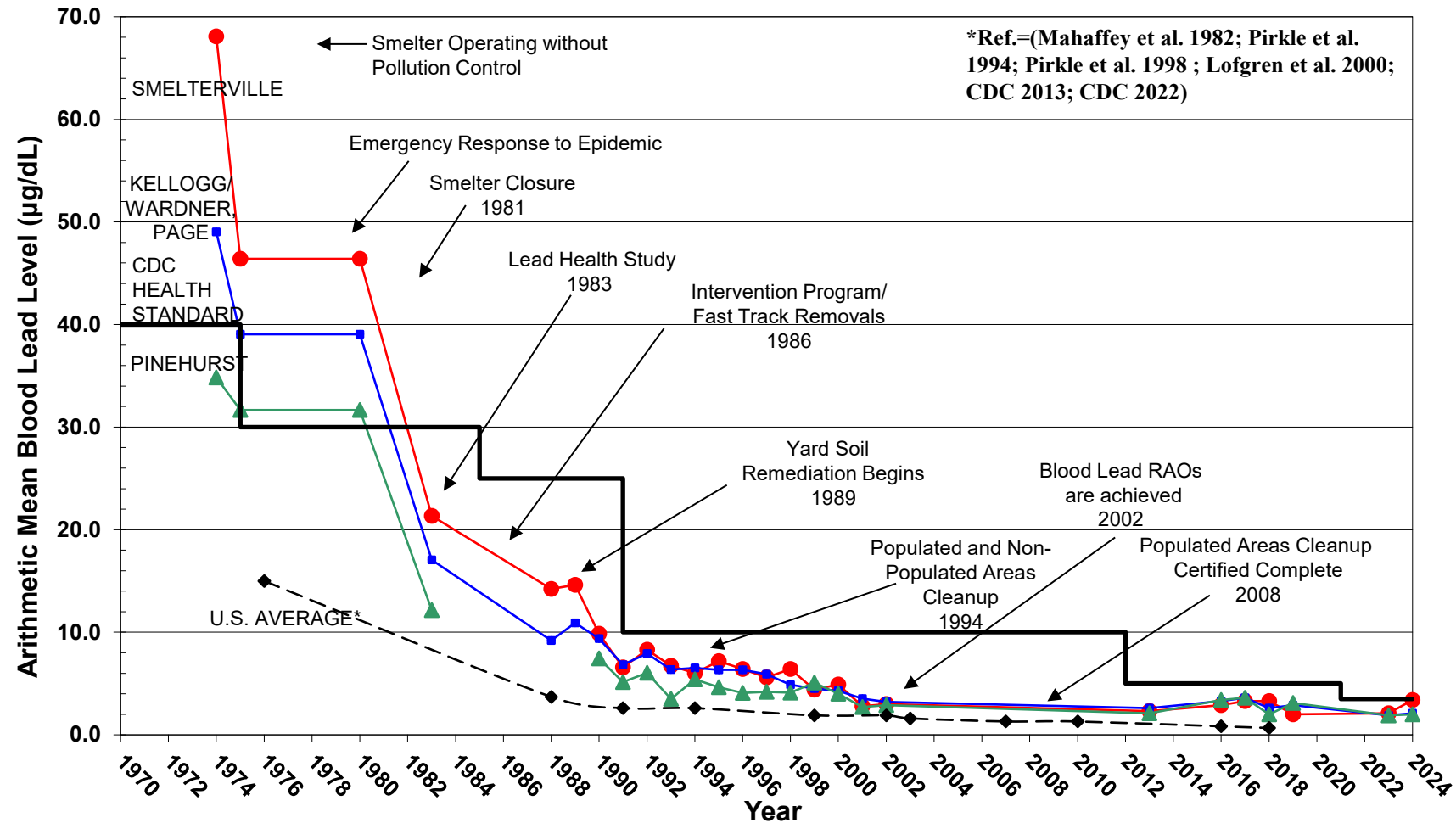
OPERABLE UNITS (OU) 1 & 2



BOX REMEDIAL ACTION OBJECTIVES

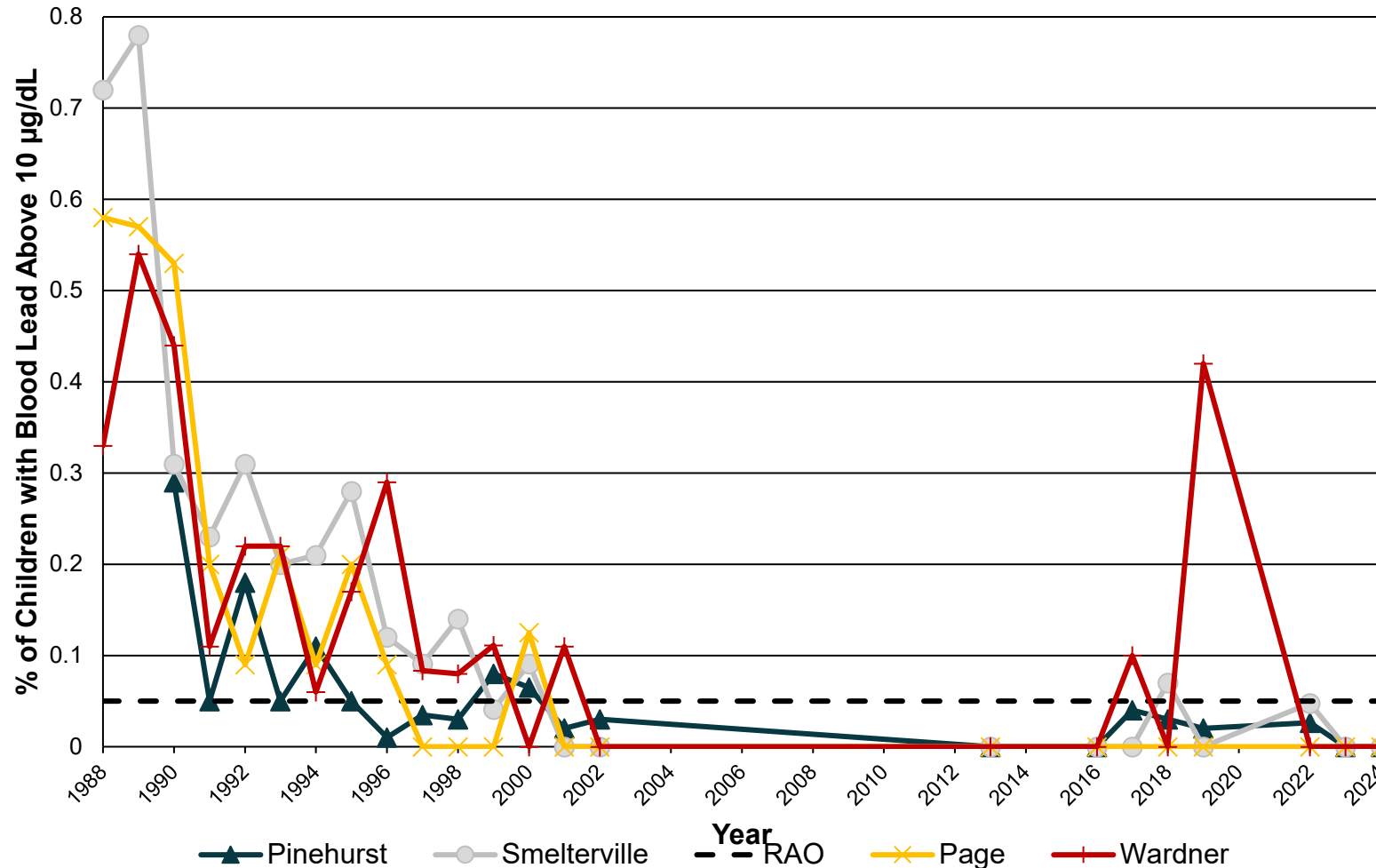
- No more than 5% of children in each community have blood lead levels $\geq 10 \mu\text{g/dL}$
- Less than 1% with blood lead levels $\geq 15 \mu\text{g/dL}$

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 ≥ 10 UG/DL, BY CITY, 1988-2024*



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

Since 1998, ≤ 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 ≤ 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
Average (µg/dL)	2.2
Standard Deviation	1.2
Geometric Mean (µg/dL)	1.9
Geometric Standard Deviation	1.6
Number / Percent Below Detection	84 (60%)

	Number*	Percentage*
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%)

	Number *	Percentage *
Blood lead \geq 3.5 µg/dL	4	5.8%
Blood lead \geq 5 µg/dL	3	4.3%
Blood lead \geq 10 µg/dL	0	0%
Blood lead \geq 15 µg/dL	0	0%

*7+ years old. *August event only.



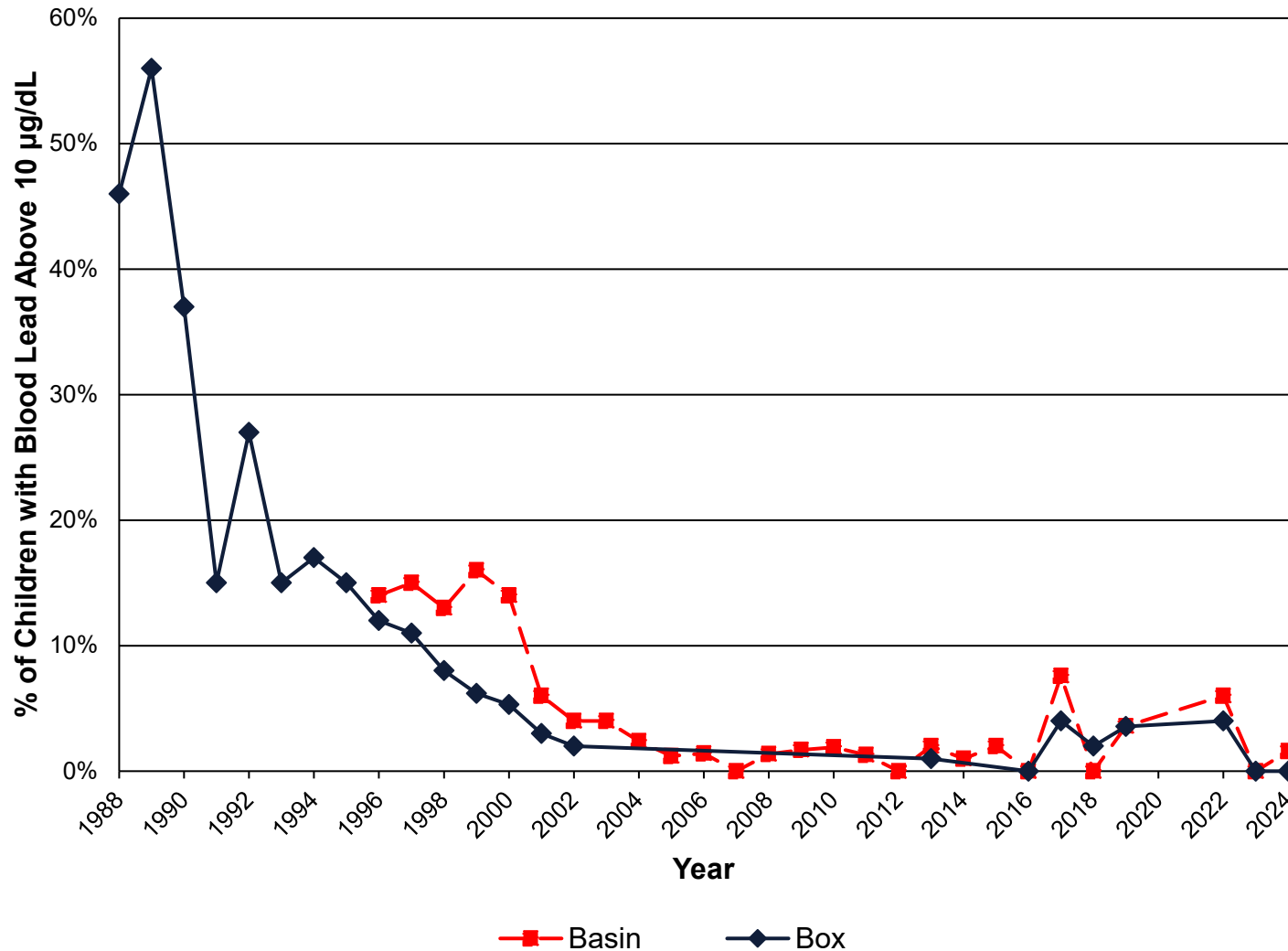
2024 RESULTS IN “THE BASIN”

OPERABLE UNIT (OU) 3

BASIN REMEDIAL ACTION OBJECTIVES

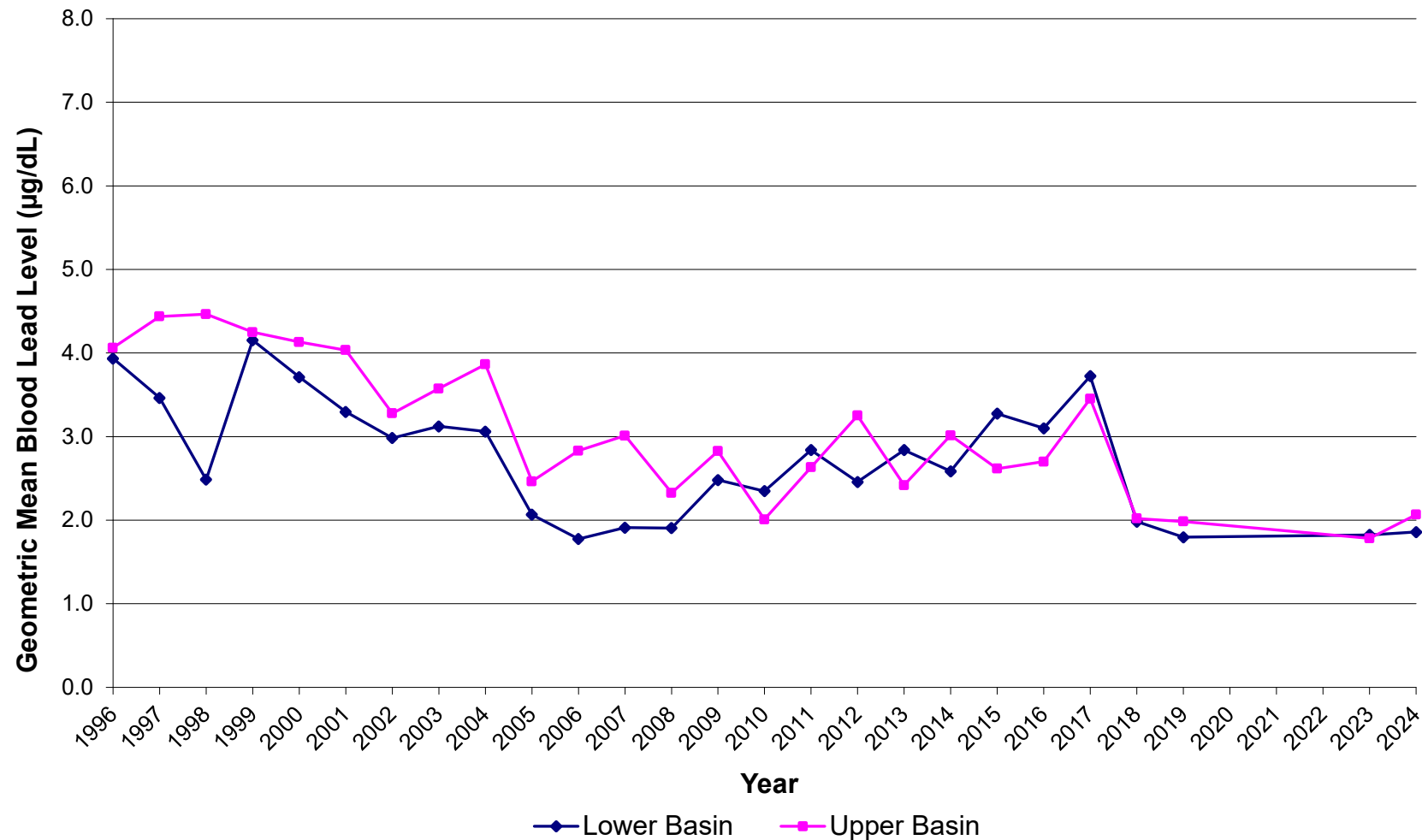
- Reduce exposures to soils with concentrations greater than:
 - Lead: ≥ 700 mg/kg
 - Arsenic: ≥ 100 mg/kg
- Reduce exposures to lead in house dust
- Cumulative exposures do not exceed USEPA's health risk goals:
 - **<5% chance that a typical child at an individual residence does not exceed $10 \mu\text{g/dL}$**

PERCENT OF CHILDREN WITH BLOOD LEAD LEVELS ≥ 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
Average (µg/dL)	2.4
Standard Deviation	2.0
Geometric Mean (µg/dL)	2.0
Geometric Standard Deviation	1.7
Number / Percent Below Detection	78 (62%)

	Number*	Percentage*
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

	Basin	Box
Estimated Eligible Population ^a	501	389
Total No. of Eligible Population Providing Samples in 2023	125	141
Estimated Percentage of Population Providing Samples	25%	36%

^a 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 ^a	
	Basin	Box
No remedial action required or Remediated	116	133
Requires remediation or sampling	0	1
Not eligible for residential remediation program ^b	9	7
Total	125	141

^a Eligible population is 6 month through 6 year old children living in the Box or Basin.

^b Includes properties developed under the ICP and properties currently under development.