

Fall 2012 Blood Lead Results



Participation Rates

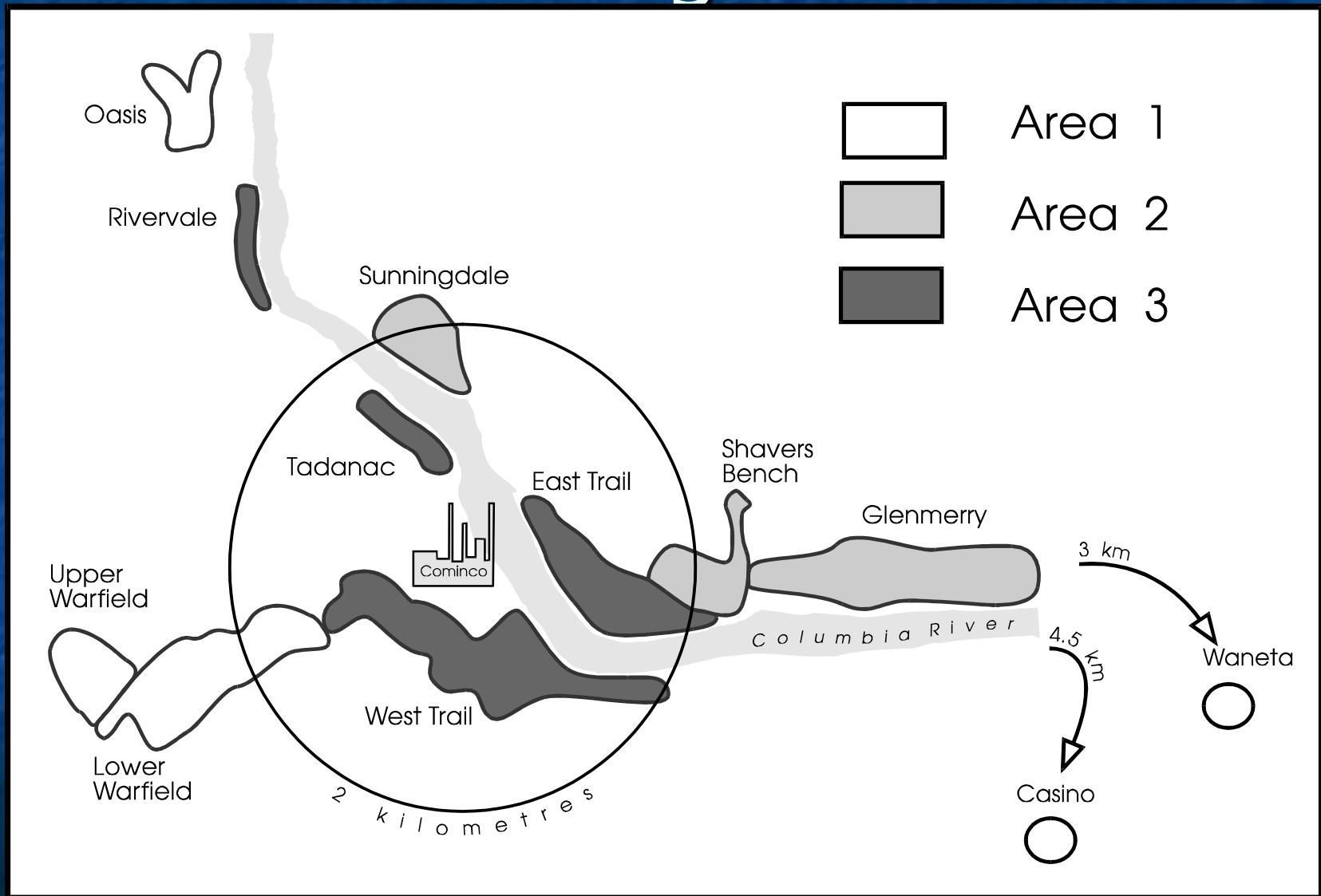
Results

Environmental Conditions

Who Was Tested in 2012?

- Target group:
 - Children aged 6-36 months, living in City of Trail or Rivervale (Area 2/3)
- Also:
 - New to area, up to age 5 yrs (60 mos)
 - Previous case management for follow-up

"Areas" & Neighbourhoods



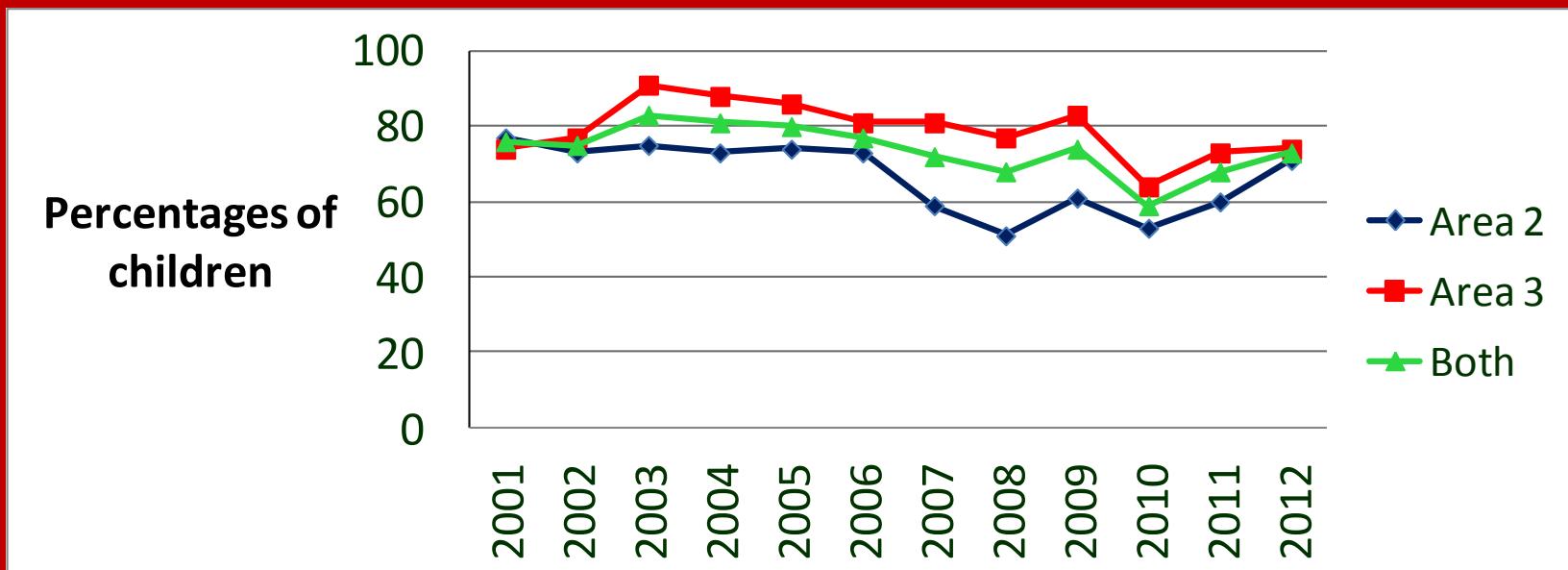


Fall 2012

Participation for 2012 (Children under 3 years)				2011 % (No.) Participating
Breakdown by Neighborhoods	# Children Contacted	# Children Participating	% Children Participating	(<3 years)
AREA 3 (Children <3 years)				
East Trail	36	24	67%	75% (24)
West Trail	53	41	77%	69% (34)
Tadanac	3	3	100%	100% (3)
Rivervale	6	5	83%	80% (4)
AREA 3 TOTAL	98	73	74%	73% (65)
AREA 2 (Children < 3 years)				
Glenmerry	43	32	74%	60% (24)
Shavers Bench	14	9	64%	50% (5)
Sunningdale	12	8	67%	67% (12)
AREA 2 TOTAL	69	49	71%	60% (41)
AREA 2 & 3	167	122	73%	68% (106)

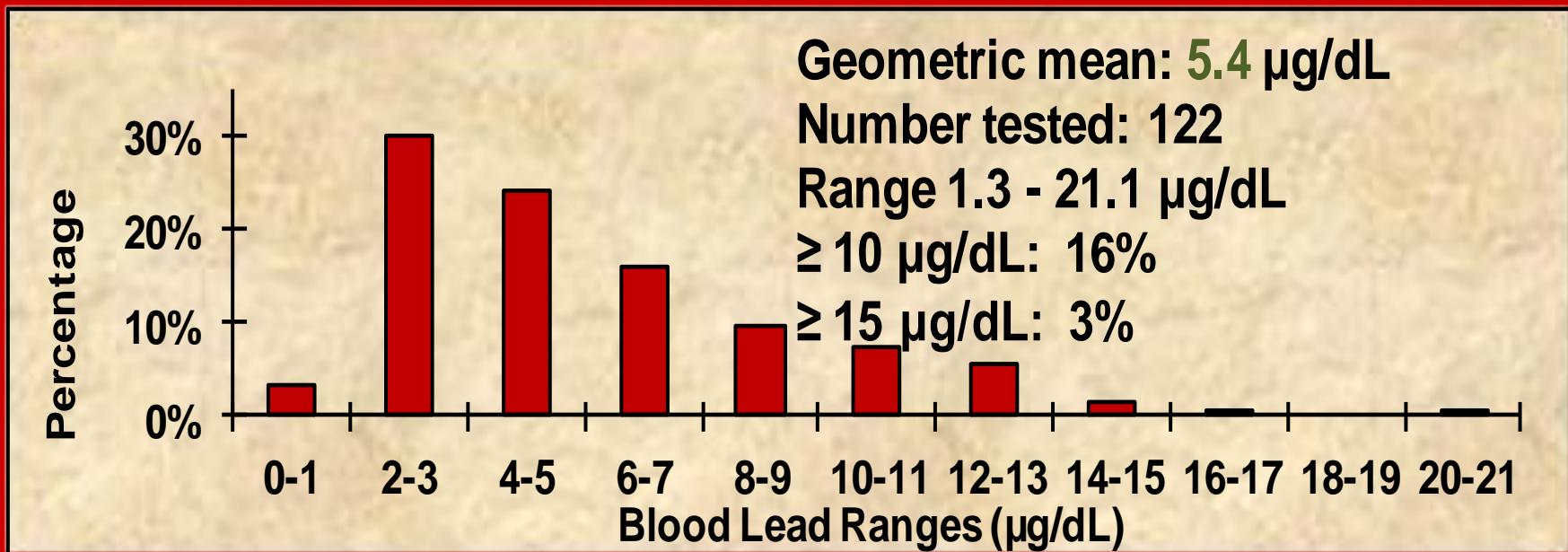


Percentages for participation by area and general trend



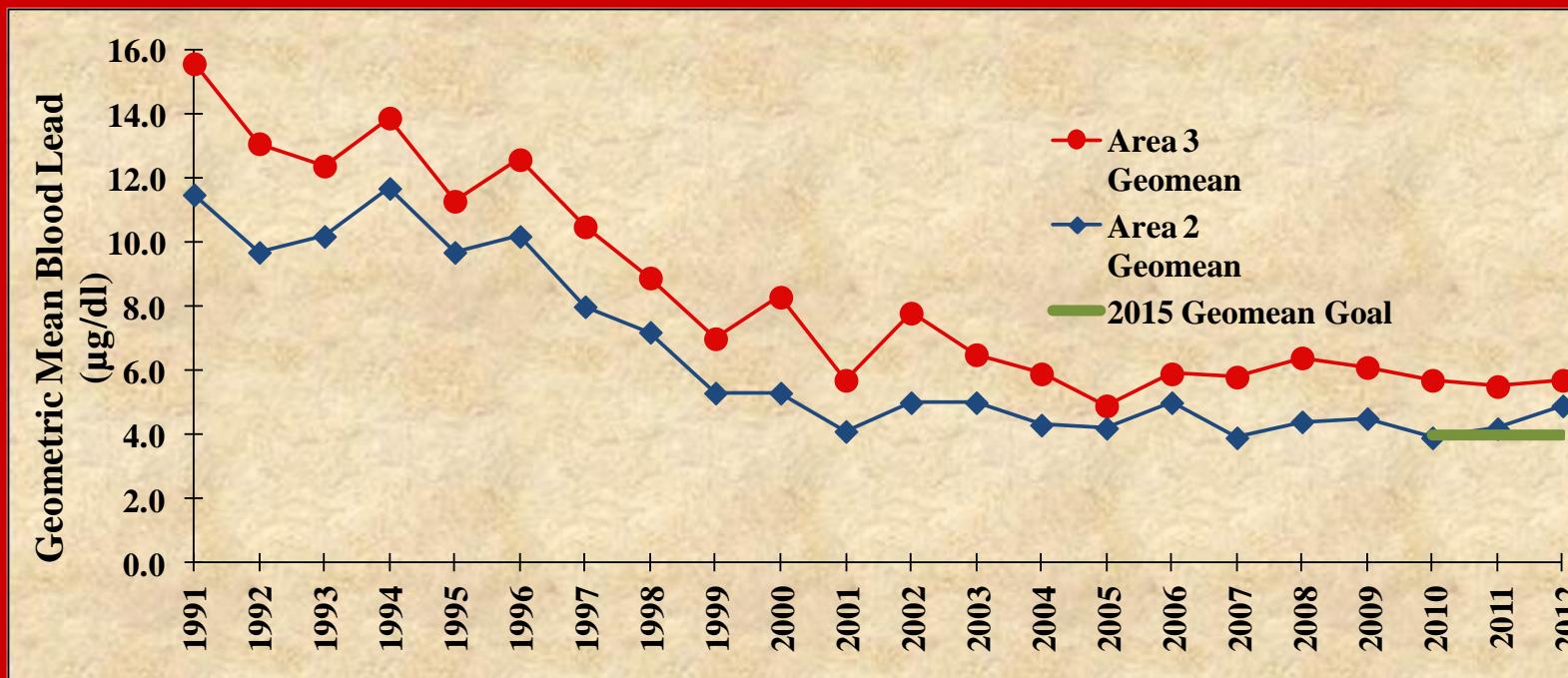
2012 Blood Lead Histogram: Area 2/3

(Age 6 mos. - 36 mos.)

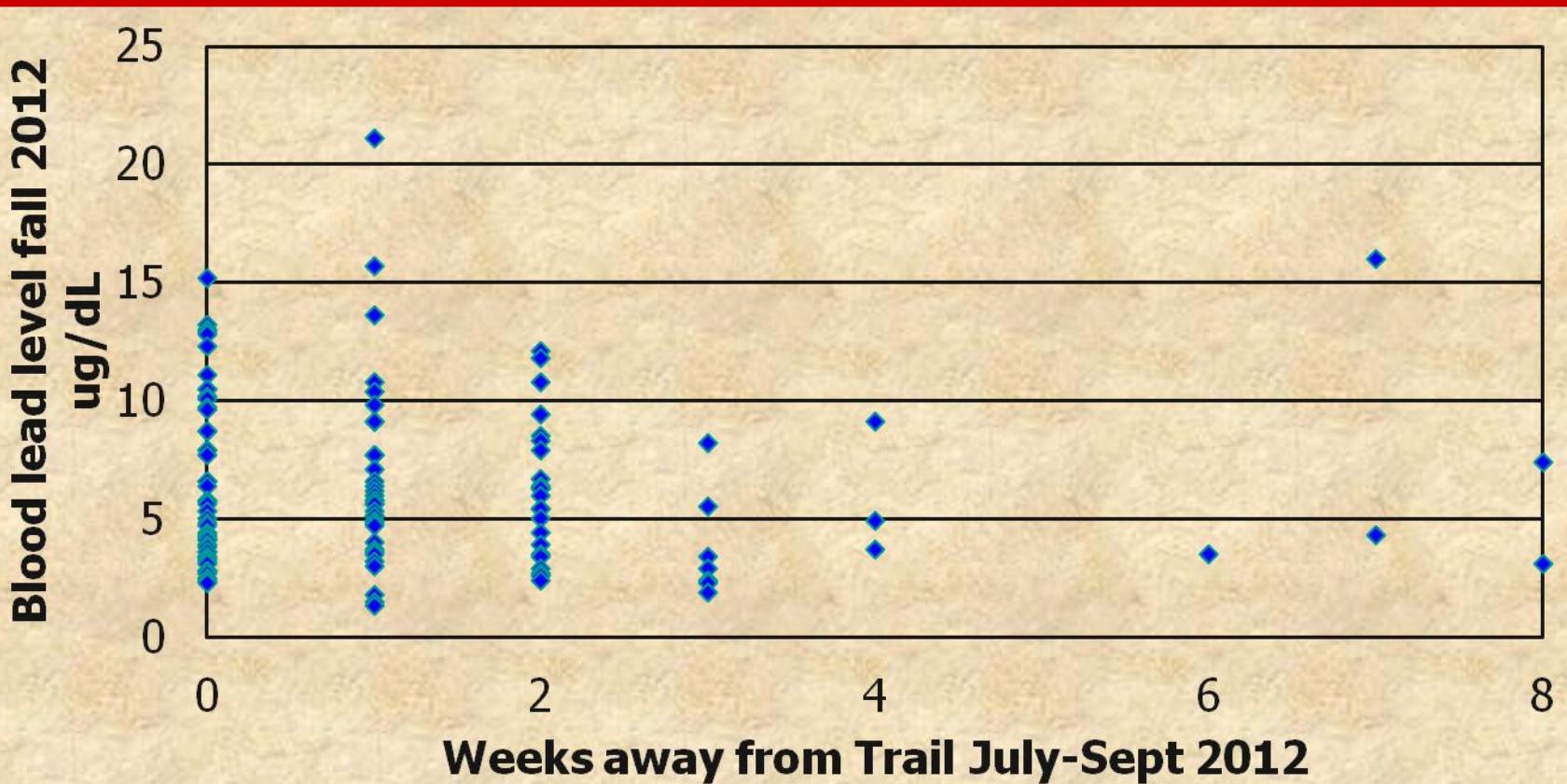


Blood Lead Geo Mean by Area

(age 6 – 36 months throughout)



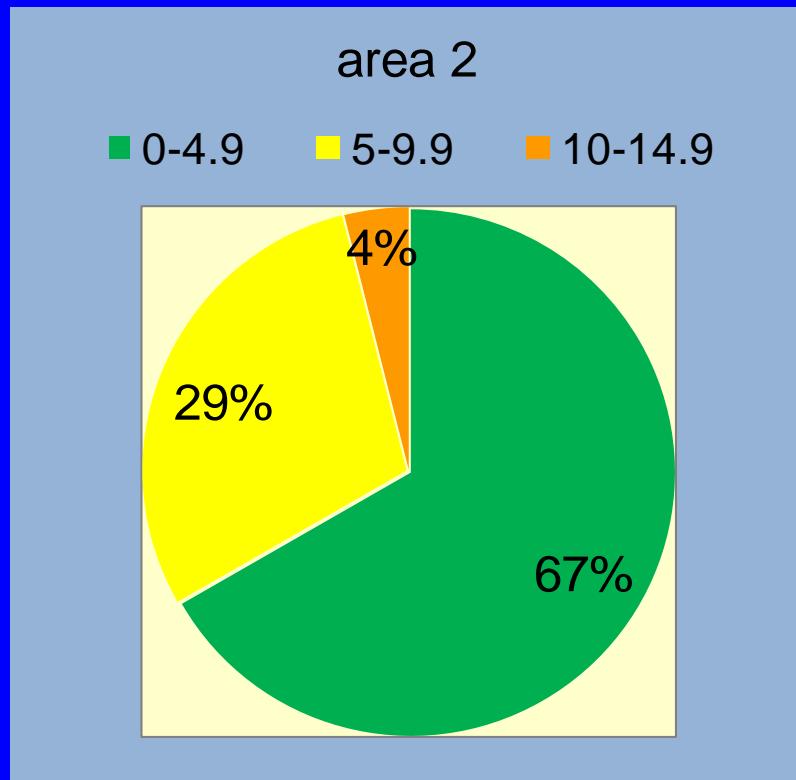
Weeks from Trail vs Blood Lead Results



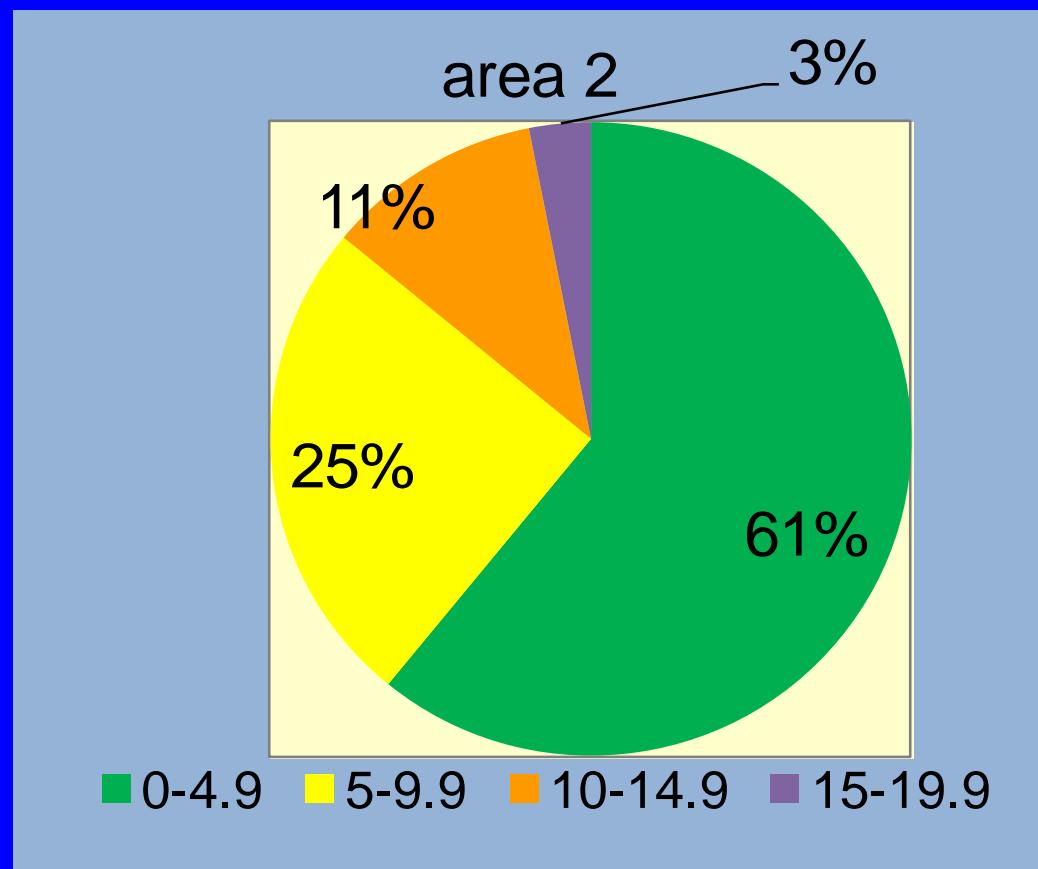
Blood Leads (ug/dL) Area 2

(Age 6 mos. - 60 mos.)

2011

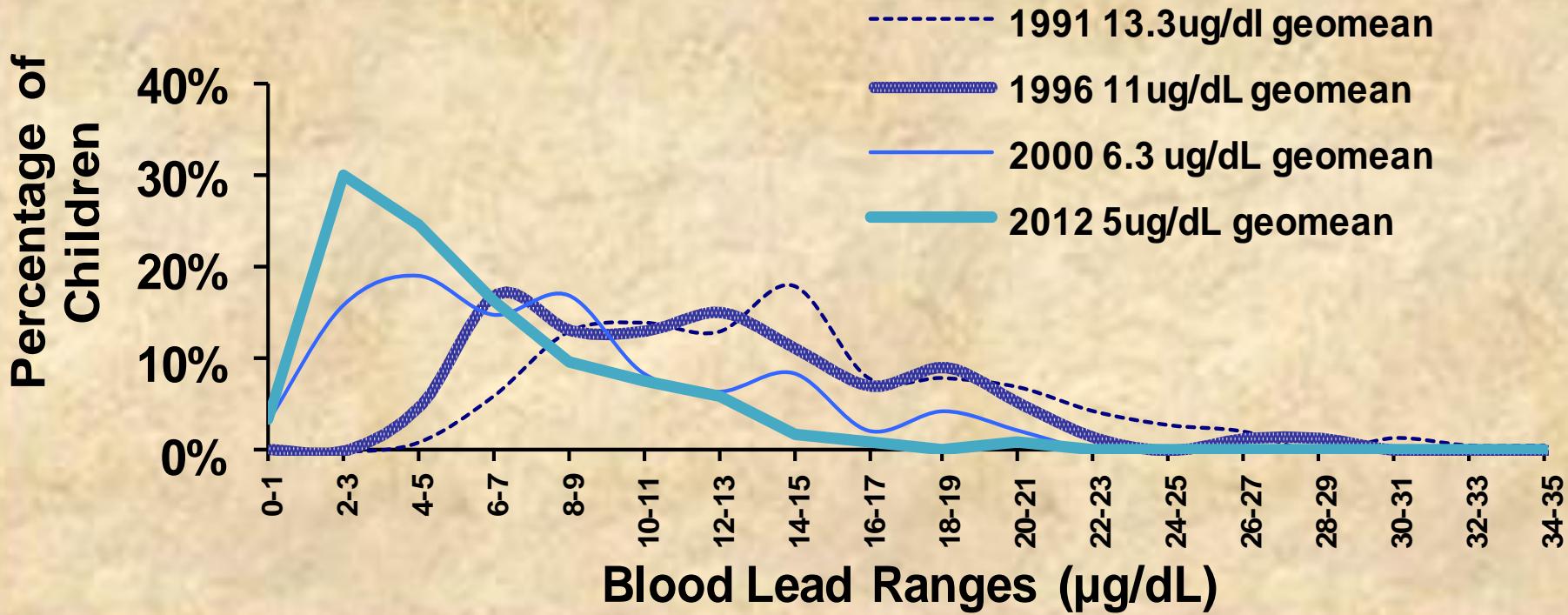


2012



1991-2012 shift

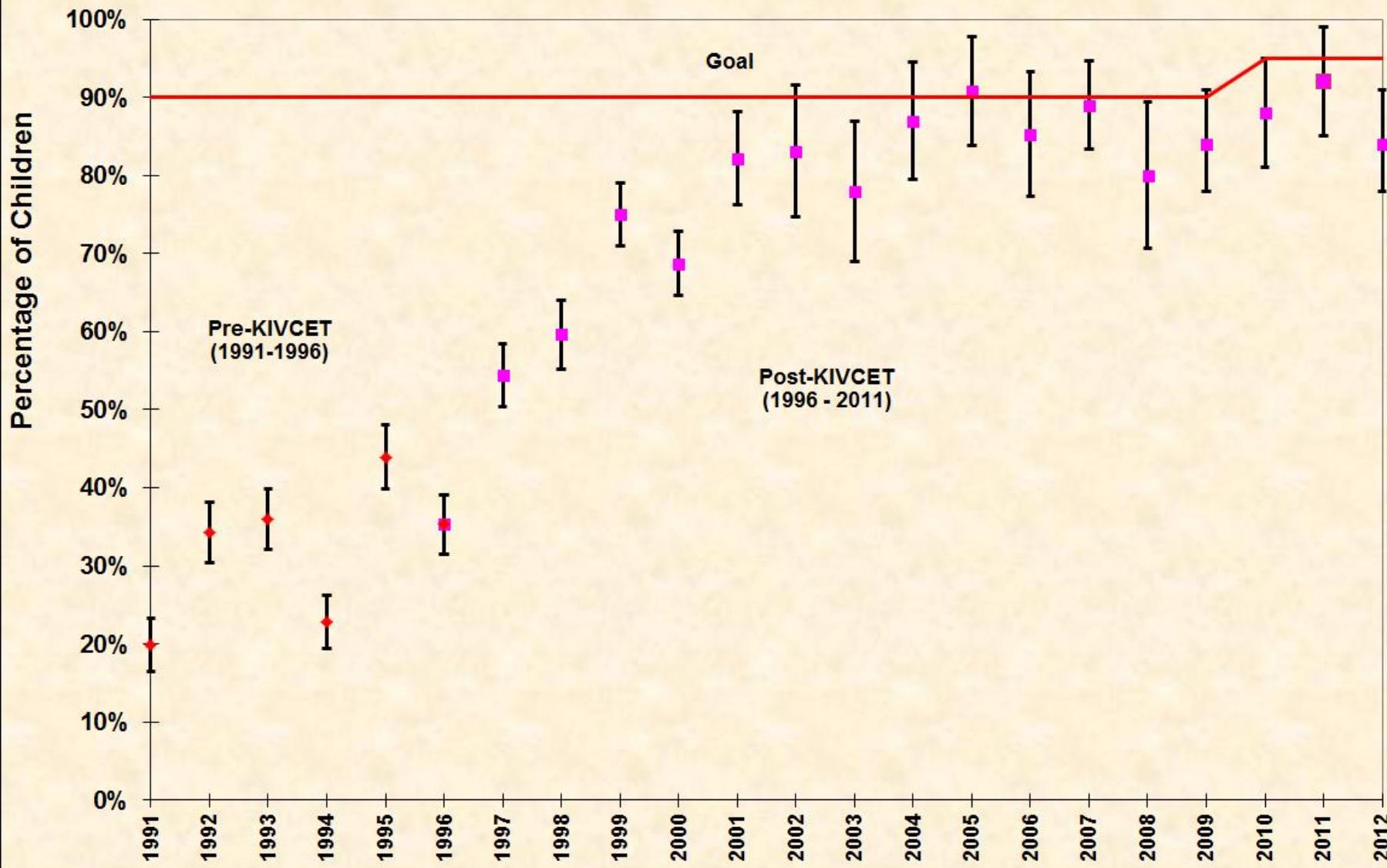
Areas 2 & 3: Children ≤ 60 months



Goal for 2015

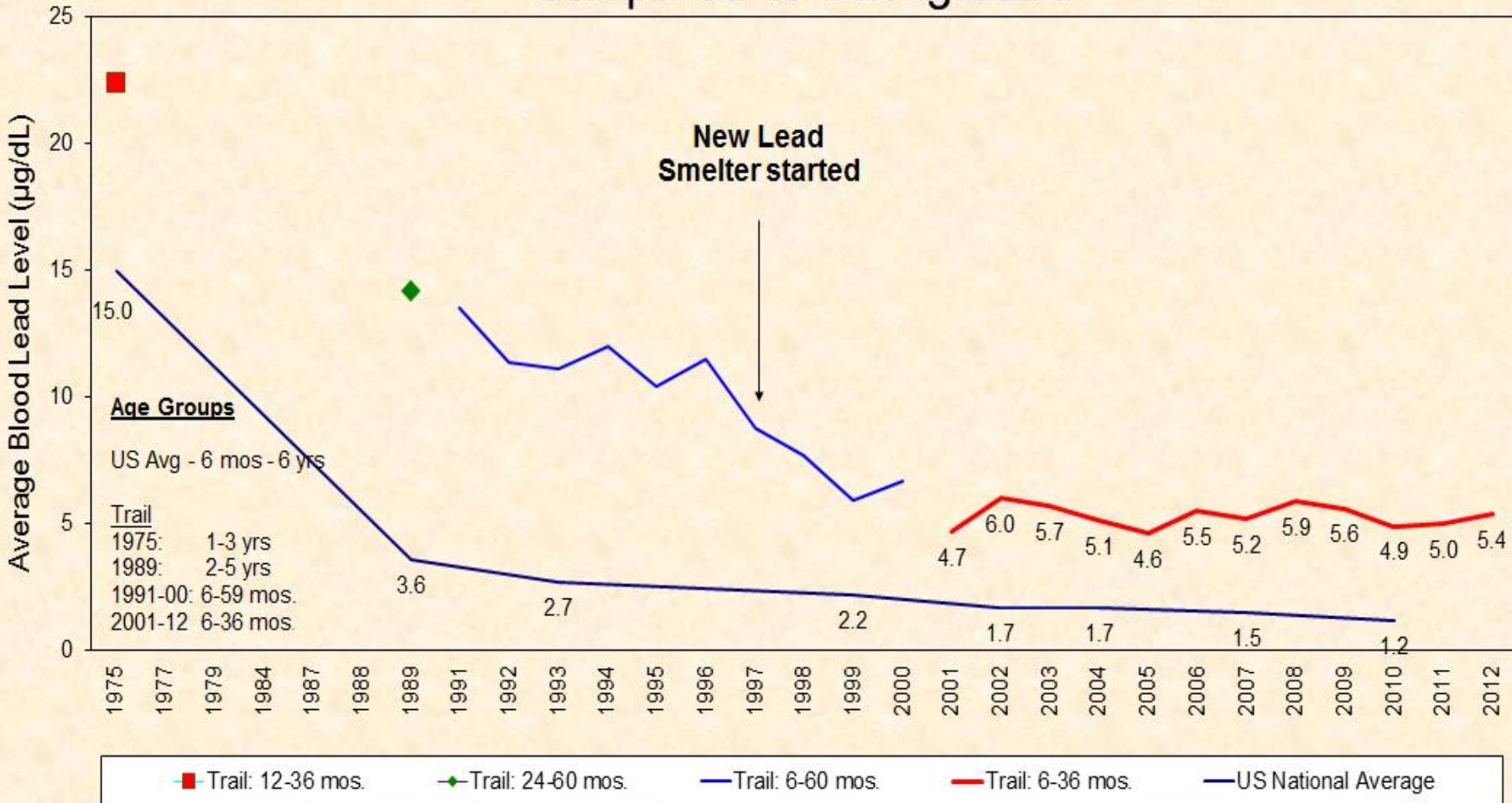
Percentage of Children with Blood Lead Levels < 10 µg/dl
(6-36 months throughout)

Chart Area



Comparison with “background”

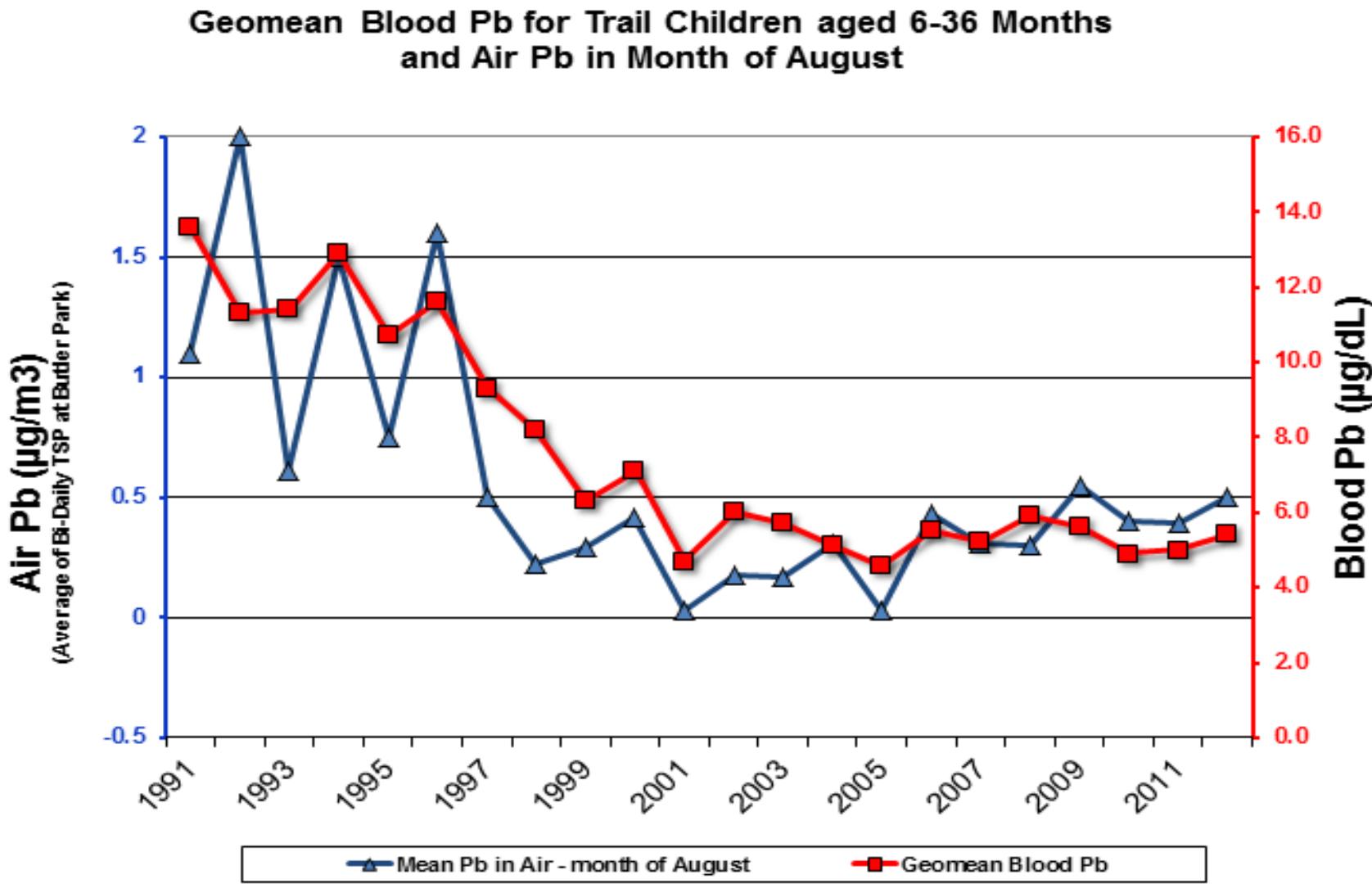
History of Children's Blood Lead Levels in Trail
compared to Background



Comparison with Other Sites

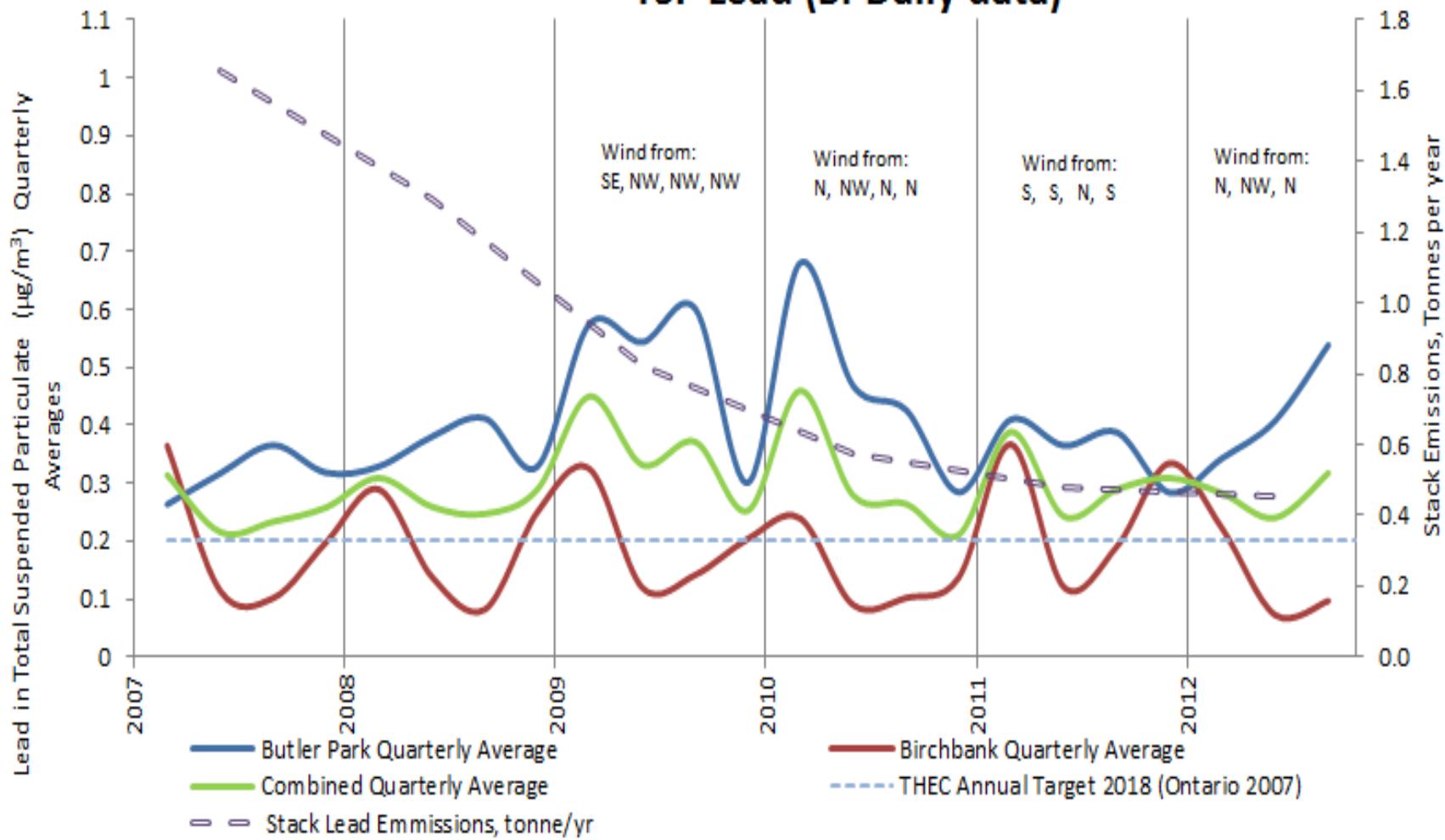
City/Region	Country	Nature of site	Age of kids tested		Year	Geomean Blood Lead Level (µg/dL)
			tested	Age of kids		
La Oroya	Peru	Pb smelter closed 2009	< 6 yrs	< 6 yrs	2011	~10
Port Pirie	Australia	Primary Pb smelter	24 months	24 months	2012	6.2
Torreón	Mexico	Primary Pb smelter	<16 yrs	<16 yrs	2011	5.7 avg
Hoboken (Moretusburg)	Belgium	Secondary Pb smelter	2.5-6 yrs	2.5-6 yrs	2012	8.9
Rouyn-Noranda	Canada	Primary Cu smelter	6 mos to 5 yrs	6 mos to 5 yrs	1999	5.2
Mount Isa	Australia	Primary Pb smelter/mir	1-4 yrs	1-4 yrs	2010	4.3
Trail	Canada	Primary Pb smelter	6 mos to 3 yrs	6 mos to 3 yrs	2012	5.4
Hamilton	Canada	Urban/city centre	under 6 yrs	under 6 yrs	2008	3.0
Nation-wide	U.S.A.	Urban/rural (NHANES)	1 to 5 yrs	1 to 5 yrs	2010	1.2

Air Pb/Blood Pb Relationship



Air Lead Levels - Butler Park Stn

TSP Lead (Bi-Daily data)



Concluding messages

- There is no known threshold below which there is no effect from lead exposure. The lower the better.
- Lead education and support programs have been in place in our community for over 20 years
- There has been huge improvement in children's blood lead levels over the past 20 years, and Trail is at the forefront of smelter communities in terms of low lead emissions and blood lead levels.

Concluding messages

- We continue to work towards the THEC goal of continual improvement, with our current target being 95% of children with BLL of <10 ug/dL by 2015. Over the last ten years this has ranged between 78% and 91% and in 2012 we have 84%
- Over the last ten years, the geometric means has ranged from 4.6 - 5.7 with a result of 5.4 ug/dL in 2012. The current 2015 target for continual improvement is a geomean of 4ug/dL.
- There is some expected variation from year to year due to the small number tested, variations in weather etc. Overall the trend has reached a plateau over the last several years.

Concluding messages

- Late summer 2012 conditions were again warm and dry and the levels of lead in ambient air were slightly greater than 2011
- Children with elevated blood lead ($\geq 10 \text{ } \mu\text{g/dL}$ OR $< 12 \text{ months age and } \geq 7 \text{ } \mu\text{g/dL}$ OR increase $> 3 \text{ } \mu\text{d/dL}$) will continue to receive home visits and assistance with reducing exposure.

Concluding messages

- Increased participation rates since 2010 could be due to the raised awareness of the THEP from the extensive consultation process done with the community in 2010 and increased awareness of the Community Program Office.

Concluding messages

- Studies of large numbers of children have found that those with higher blood lead levels tend, on average, to score slightly lower on developmental tests than children with lower blood lead levels.
- Adverse effects associated with blood lead levels as seen in Trail children today would be subtle, and an individual child's blood lead level is only one of many predictors of his/her development
- New programs will be introduced in the Spring of 2013 to continue the progress towards our 2015 goal

Concluding messages

- These new programs, announced in September 2012, were developed partly in response to new guidance from the US Centres for Disease Control and Prevention (US CDC) on the prevention of children's lead exposure.
- The US CDC guidance affirms the Trail Area Health & Environment Program's focus on preventing lead exposure through actions including lower smelter/fugitive emissions and health education and home & yard assessments for all families.

Questions and Comments

