

Tacoma Smelter Plume Project Update

May 23, 24 and June 14th, 2016

Public Meetings

Washington Department of Ecology



DEPARTMENT OF
ECOLOGY
State of Washington

Topics

- History
- Project Overview
- Yard Program
- Soil Safety Program
- Technical Assistance
- Phase Two



1891 to 1986



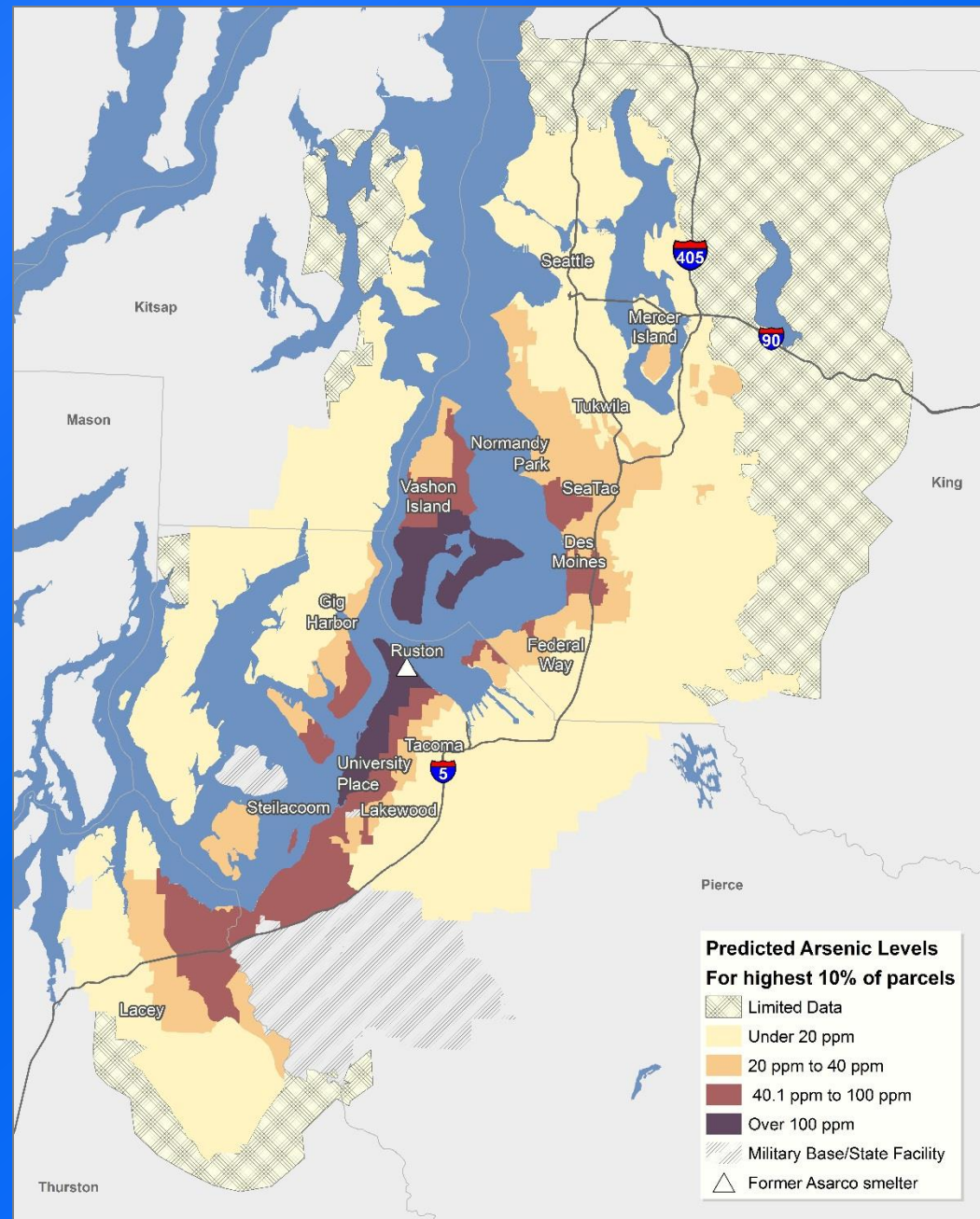
Tacoma Smelter Plume

Arsenic, lead, other heavy metals
Settled on surface soils
Amount of contamination found varies



1,000 square miles

Estimate highest
arsenic levels



Ways People Can Be Exposed



Health Impacts

Arsenic

- Long-term cancer risk
- Heart disease, diabetes

Lead

- Developmental delays
- Behavioral problems
- Memory loss



Healthy Actions

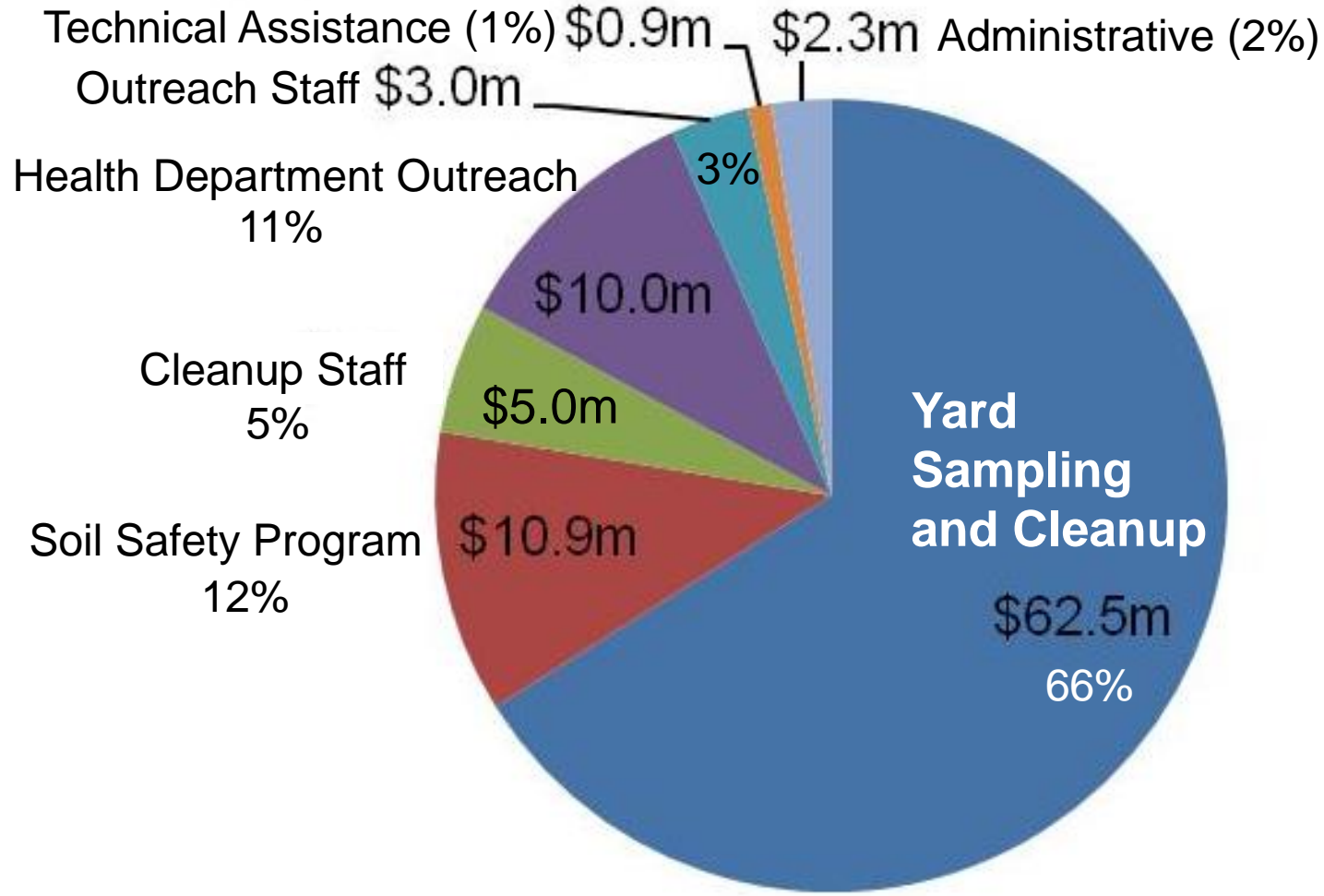


Tacoma Smelter Plume project

2009: Ecology receives \$94.6 million settlement

Action	Where	Target
Yard program	Arsenic >100 ppm	Residents
Soil Safety Program	Arsenic >20 ppm	Children
Outreach and education – Dirt Alert	Whole plume	Children, parents, teachers, gardeners, workers
Technical assistance	Whole plume	Local governments, developers, residents outside Yard Program service area

Asarco Settlement



Outreach & Education

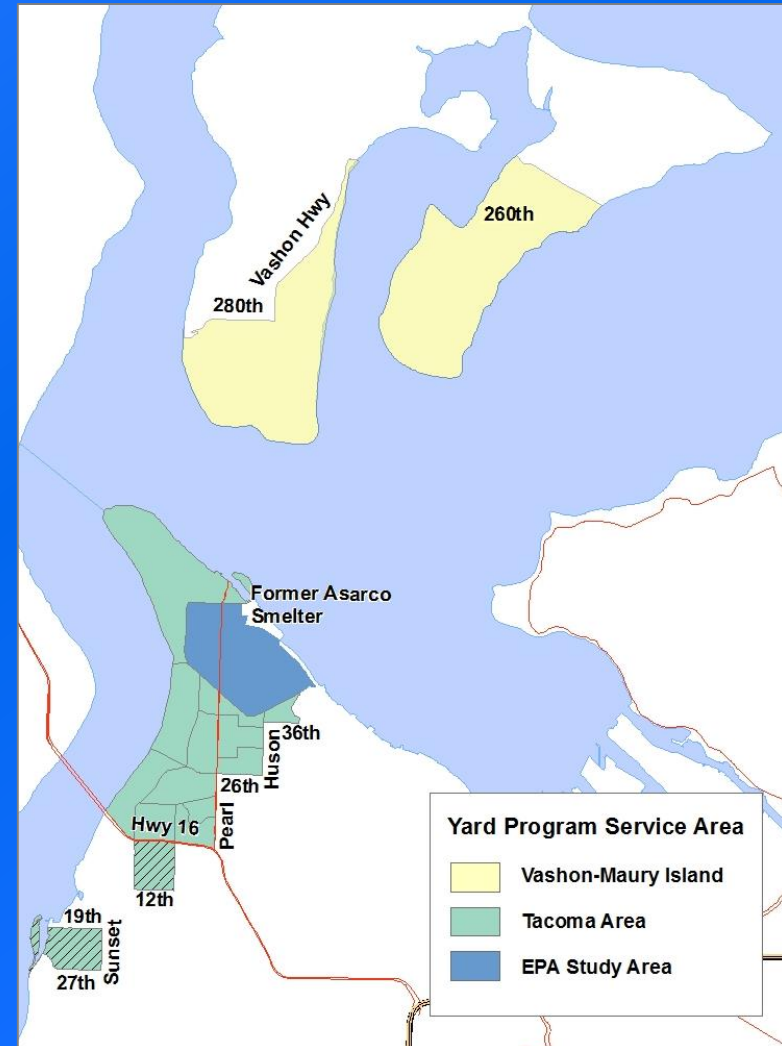
- Mass media
- Events
- School and childcare classes
- Giveaways
- Free home soil testing
- Healthy action planning
- Non-English outreach



Yard Sampling and Cleanup Program

- Existing residential
- State-led
- Voluntary

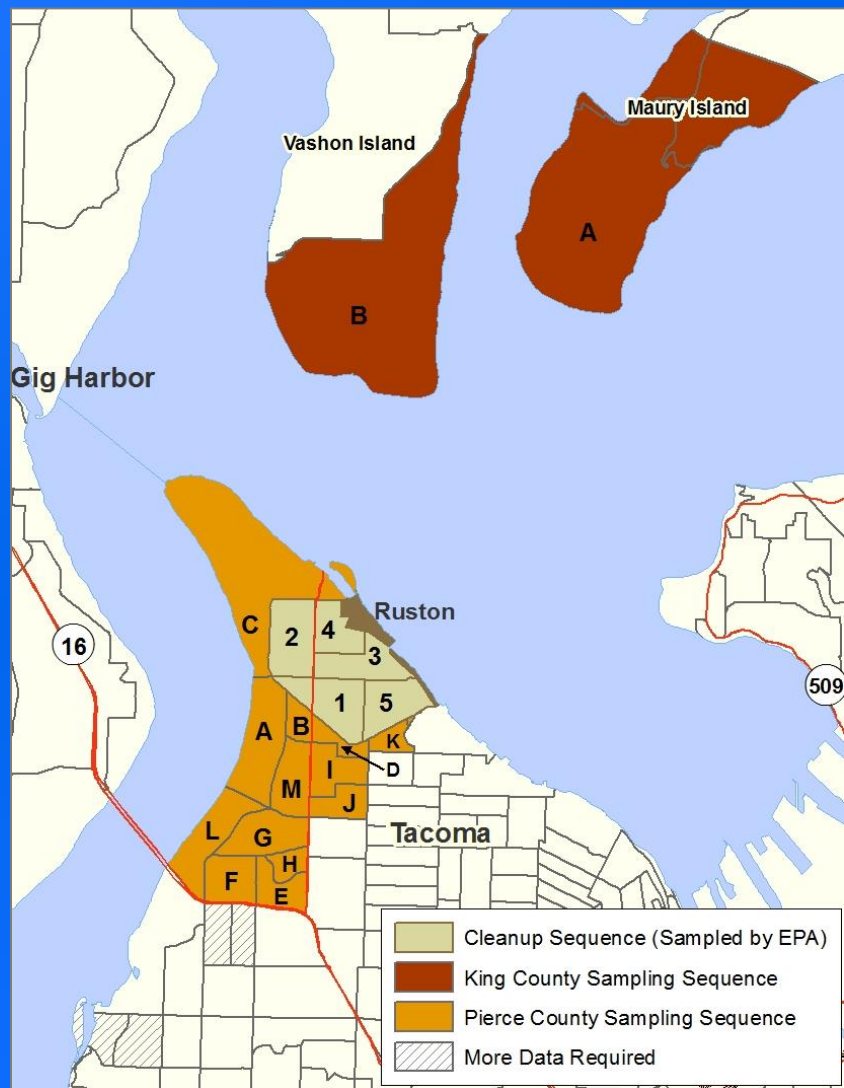
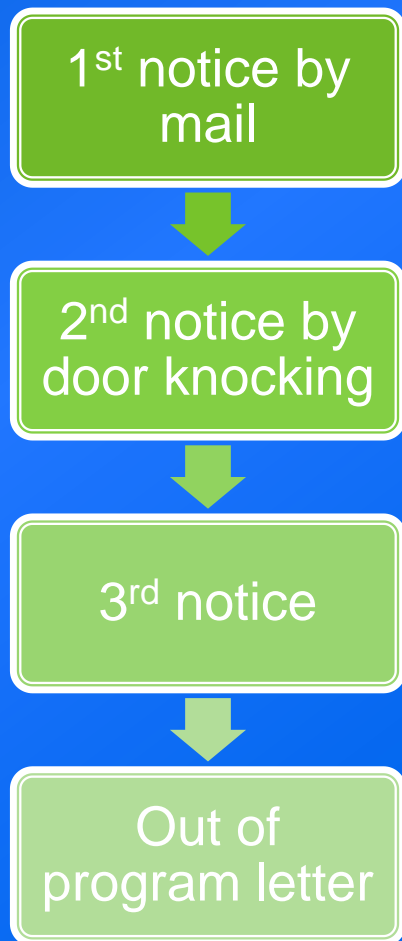
- Arsenic action level
= 100 ppm
- Lead action level
= 500 ppm



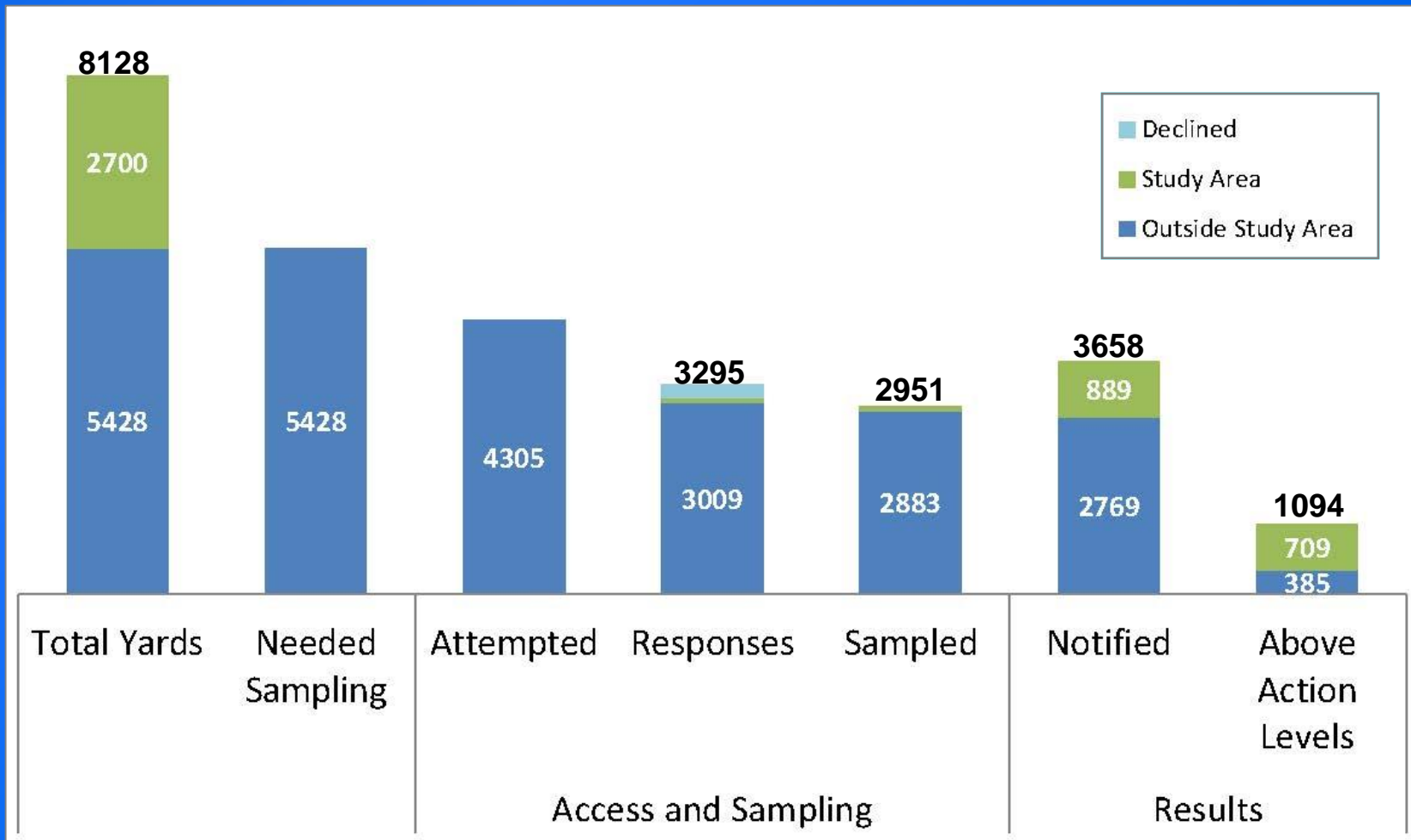
Program Progress Evaluation

Goal	Performance Measure	All Yard Program
Access attempts/year	1,000	Average of 1,200
Soil sampling form returned	75%	70%
Sampled within one month of signed form	100%	58% Average 2 months
Results mailed within two months of sampling	100%	90% Average 1 month
Cleanup with one year of signed plan	100%	50% (Average just under 1 year)

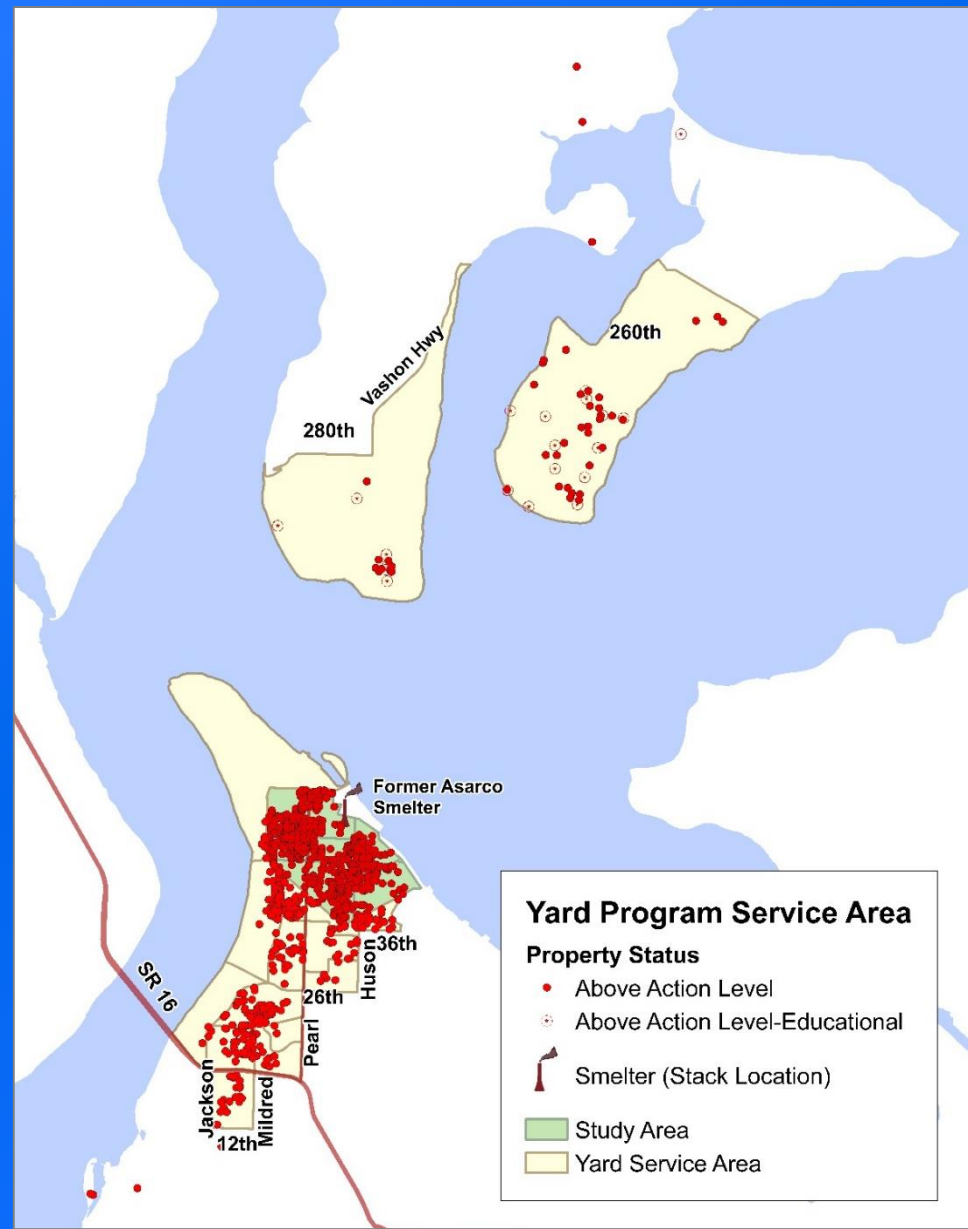
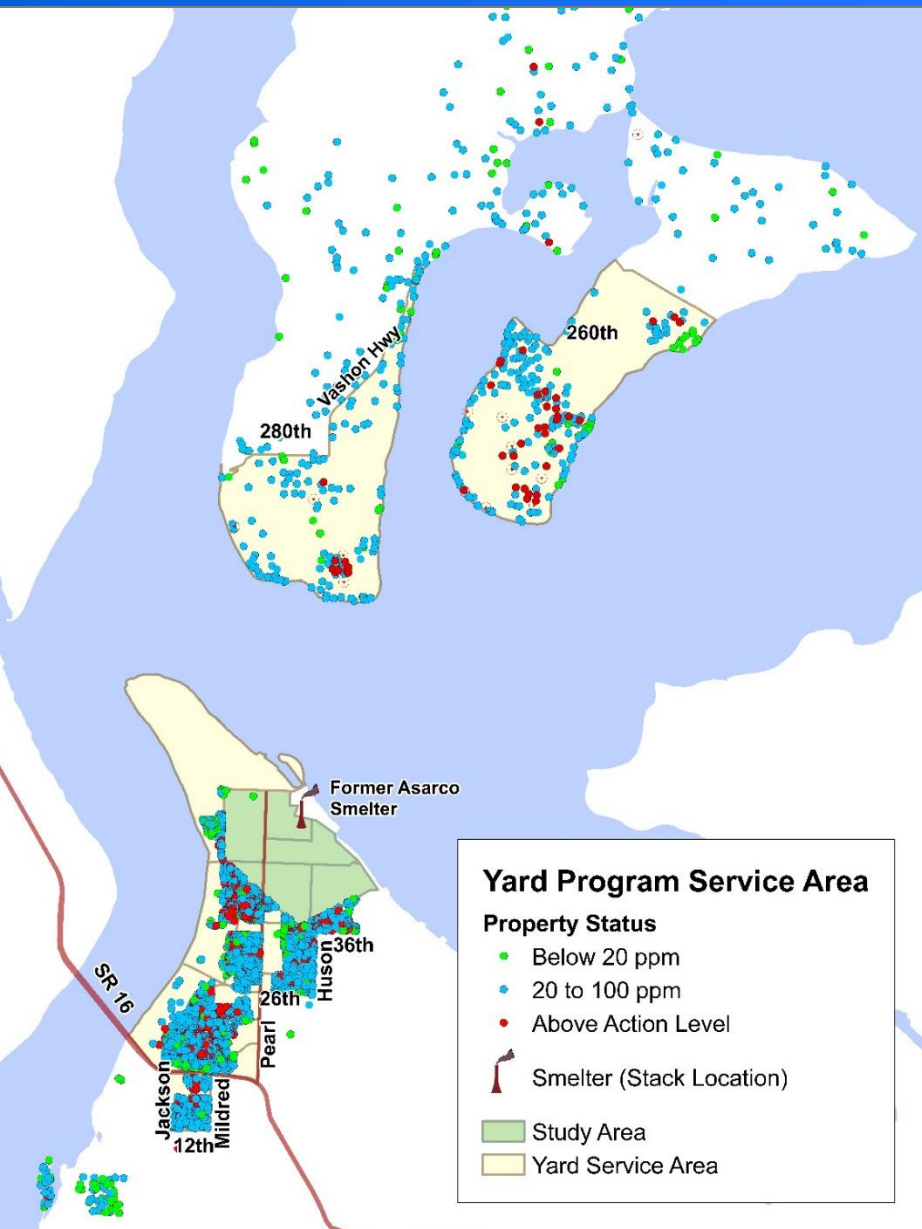
Soil Sampling in the Yard Program



Soil Sampling Progress



Data as of April 12th, 2016



Extend Service Area - Tacoma

Area 1:

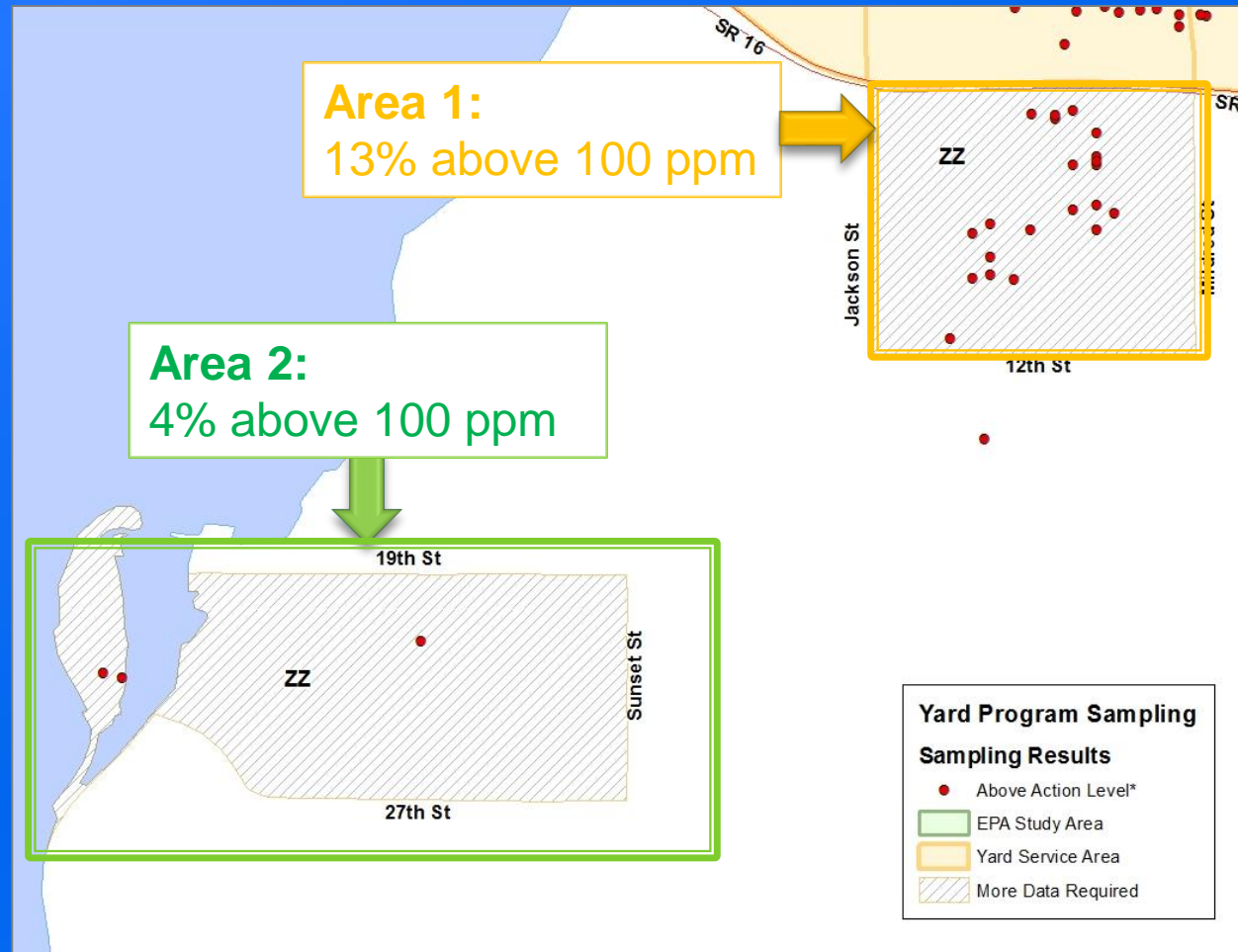
- Sampled 163
- 13%

Area 2:

- Sampled 80
- 4%

Decision:

Add area 1 to service area



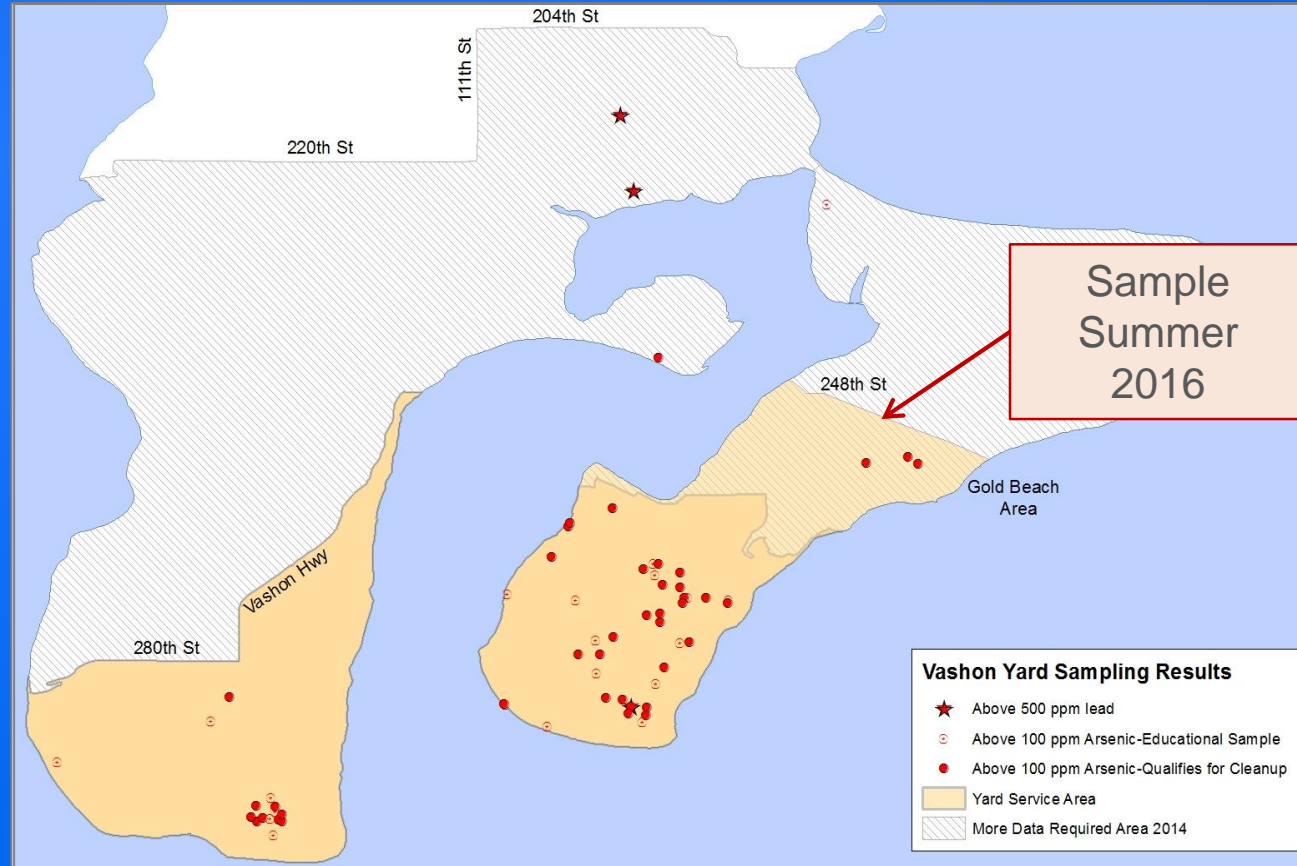
Extend Service Area - Vashon-Maury Island

Vashon Area:

- Sampled 205
- 2%

Decision:

Extend service area on Maury



Updated Service Area

2013 - Original:

- More data required

Updates:

Vashon:

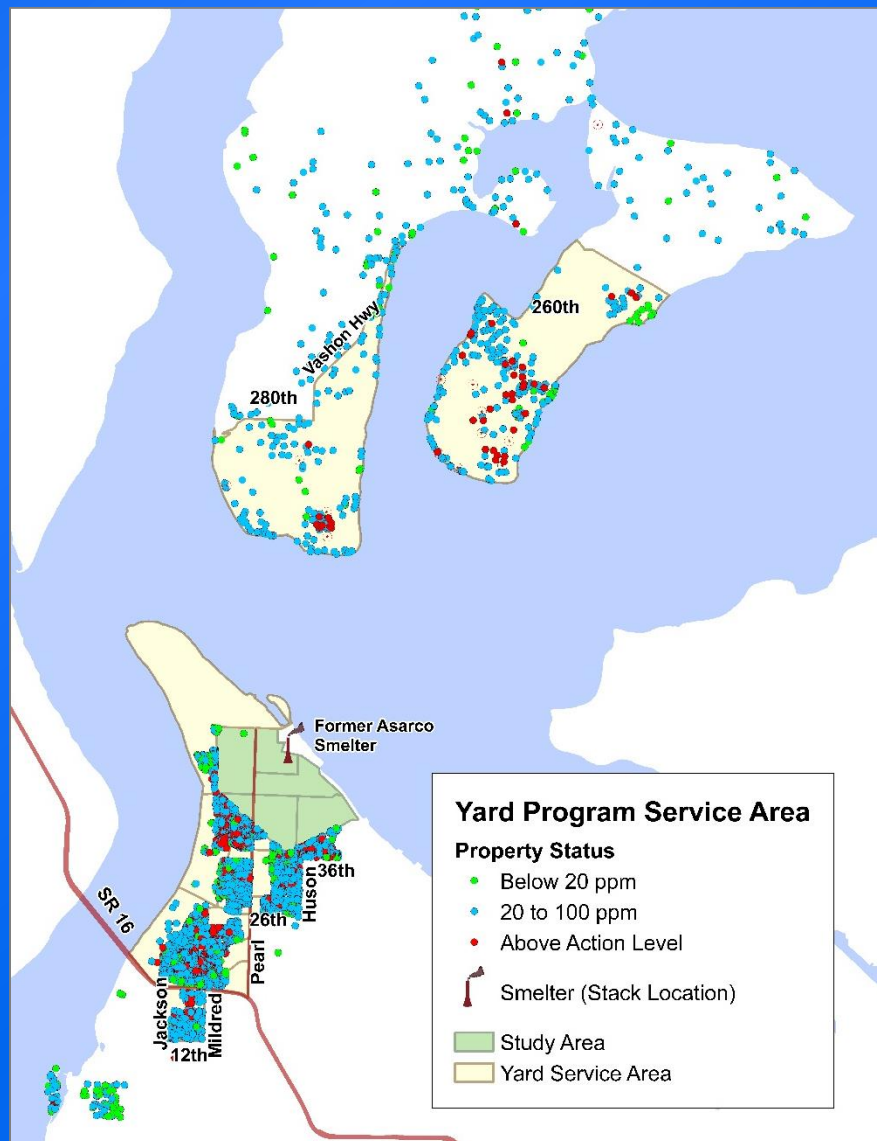
- 190 more yards

Tacoma:

- 400 more yards



Soil Sampling Results



Resources for 20-100 ppm Arsenic

- Healthy Actions
- Workshops
- Action Plans
- Online Resources
- Technical Assistance



Healthy Actions

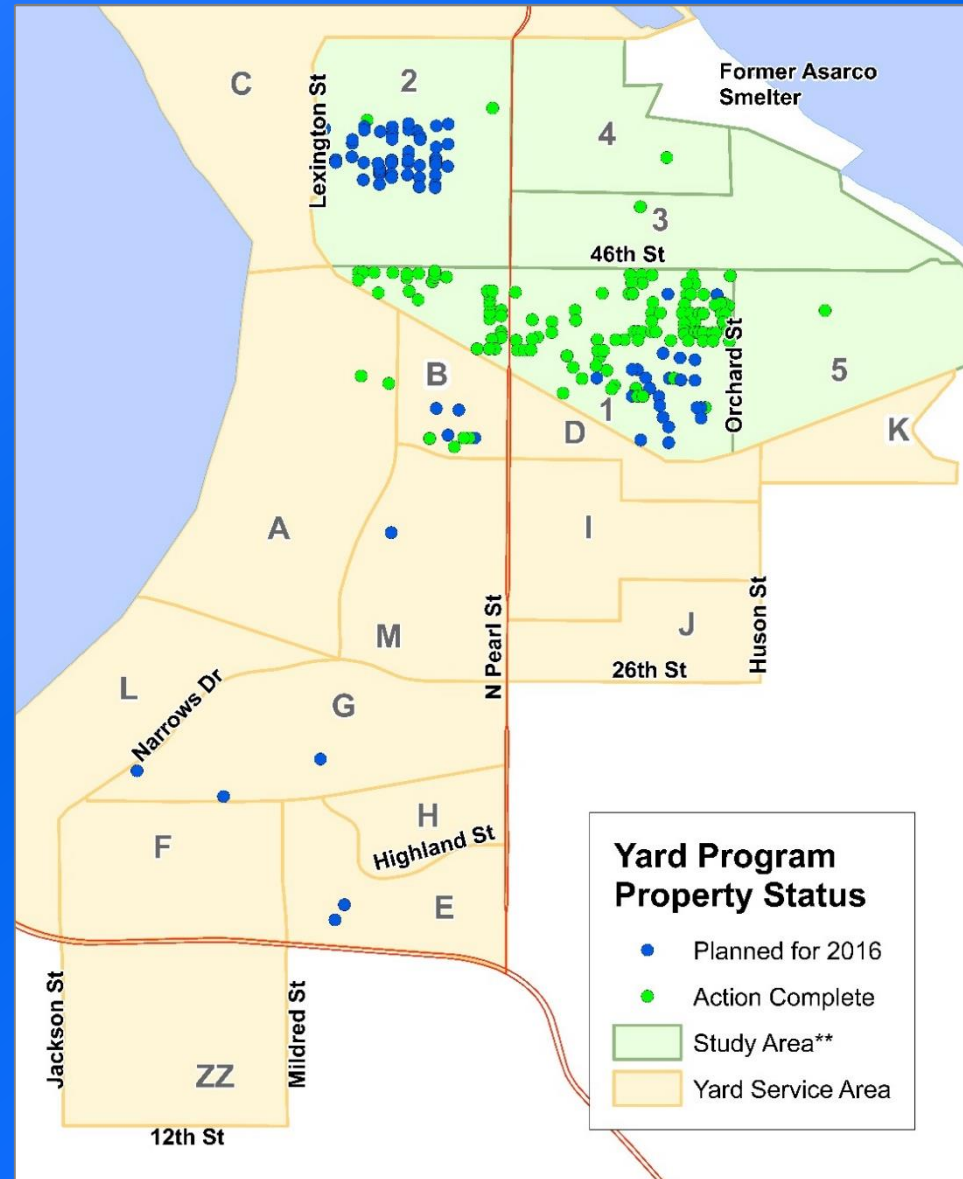


Soil Replacement– Tacoma

Total Yards:
1,050 + yards

Completed:
2013 - 8 yards
2014 - 47 yards
2015 - 71 yards
Total -126 yards

Upcoming:
2016 - 80 yards



Map as of 4/8/2016

Soil Replacement - Vashon

Total Yards:

44 yards

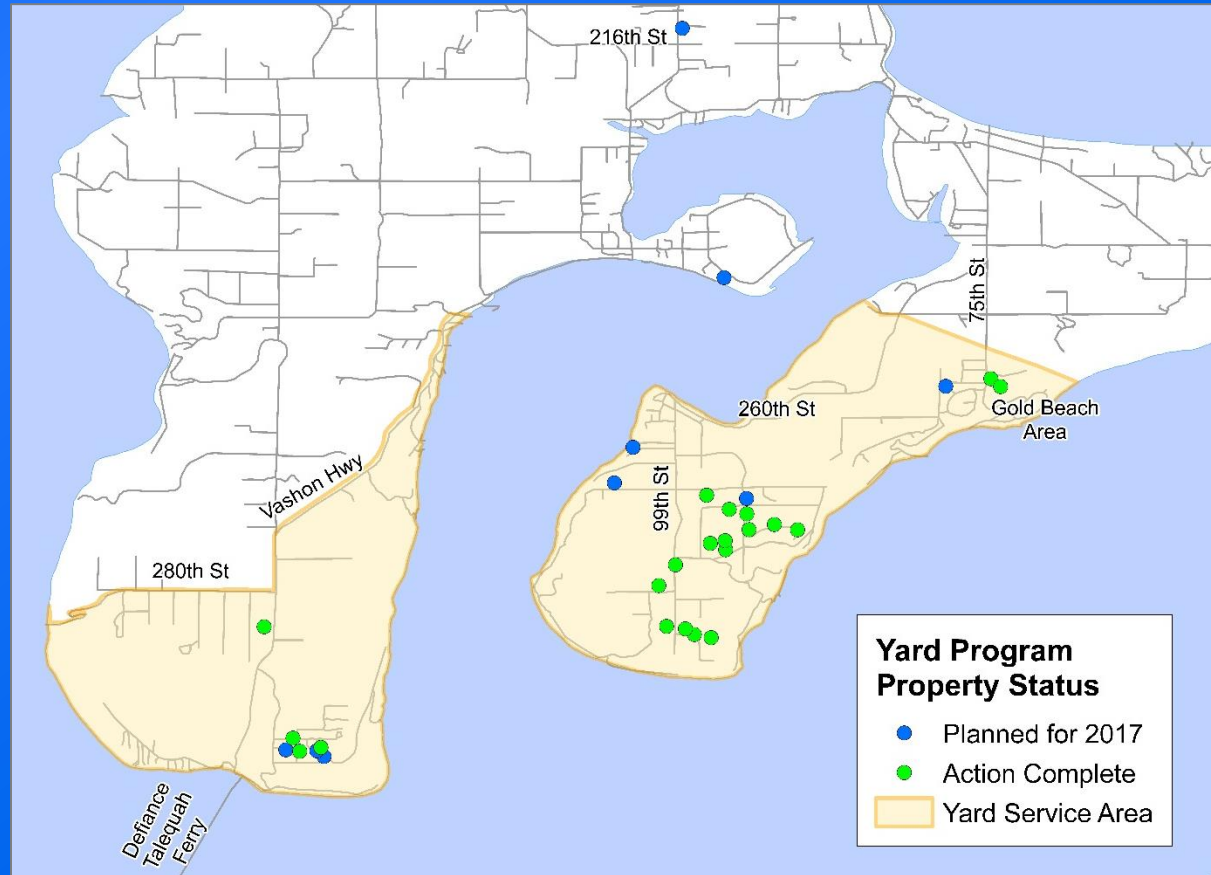
Completed:

2014 - 6 yards

2015 - 15 yards

Upcoming:

- 9 yards



Map as of 5/3/2016

Why is it taking so long?

- Many Properties
- Contacting Property Owners
- Planning
- Contracting

WITHIN THE CLEANUP AREA ECOLOGY WILL:

1. LOCATE BURIED UTILITIES AND DRAINPIPES.
2. EXCAVATE UP TO 12-18 INCHES IN CLEANUP AREA.
3. EXCAVATE UP TO 6 INCHES UNDER TREES, OR TO TOP OF TREE ROOTS, WHICHEVER IS SHALLOWER.
4. INSTALL TEMPORARY CONSTRUCTION FENCES.
5. REMOVE, RETAIN, OR REPLACE PLANTS AS INDICATED.
6. SETBACK CLEANUP AREA 3' FROM WALL.

ECOLOGY WILL RESTORE YOUR YARD BY:

1. PLACING AND COMPACTING UP TO 12-18 INCHES OF TOPSOIL IN EXCAVATED AREAS.
2. PLACING SOD IN GRASS AREAS.
3. REPLACING 16 PLANTS WITH NURSERY PLANTS IN FRONT YARD PLANTER.
4. WATERING, MOWING, FERTILIZING, AND RAKING LEAVES FOR 60 DAYS AFTER INSTALLATION.
5. RESTORING CLEANUP AREAS TO PRE-EXCAVATION ELEVATIONS.

OWNER RESPONSIBILITIES:

1. BEFORE CLEANUP: REMOVE ITEMS FROM YARD.
2. DURING CLEANUP: MAINTAIN ACCESS ONTO DRIVEWAY, ALLEY, AND STREET.
3. AFTER: NOTIFY ECOLOGY IF YOU NOTICE PUDDLES THAT LAST MORE THAN 48 HOURS, SOIL SETTLING, OR OTHER ISSUES. MAINTAIN YARD AS STATED IN ACCESS AGREEMENT AND LANDSCAPE BROCHURE. PROPERTY OWNER IS RESPONSIBLE FOR PICKING UP PET WASTE; FAILURE RESULTS IN VOID WARRANTY ON GRASS.

PROPERTY OWNER NAME: _____

SIGNATURE _____ **DATE** _____

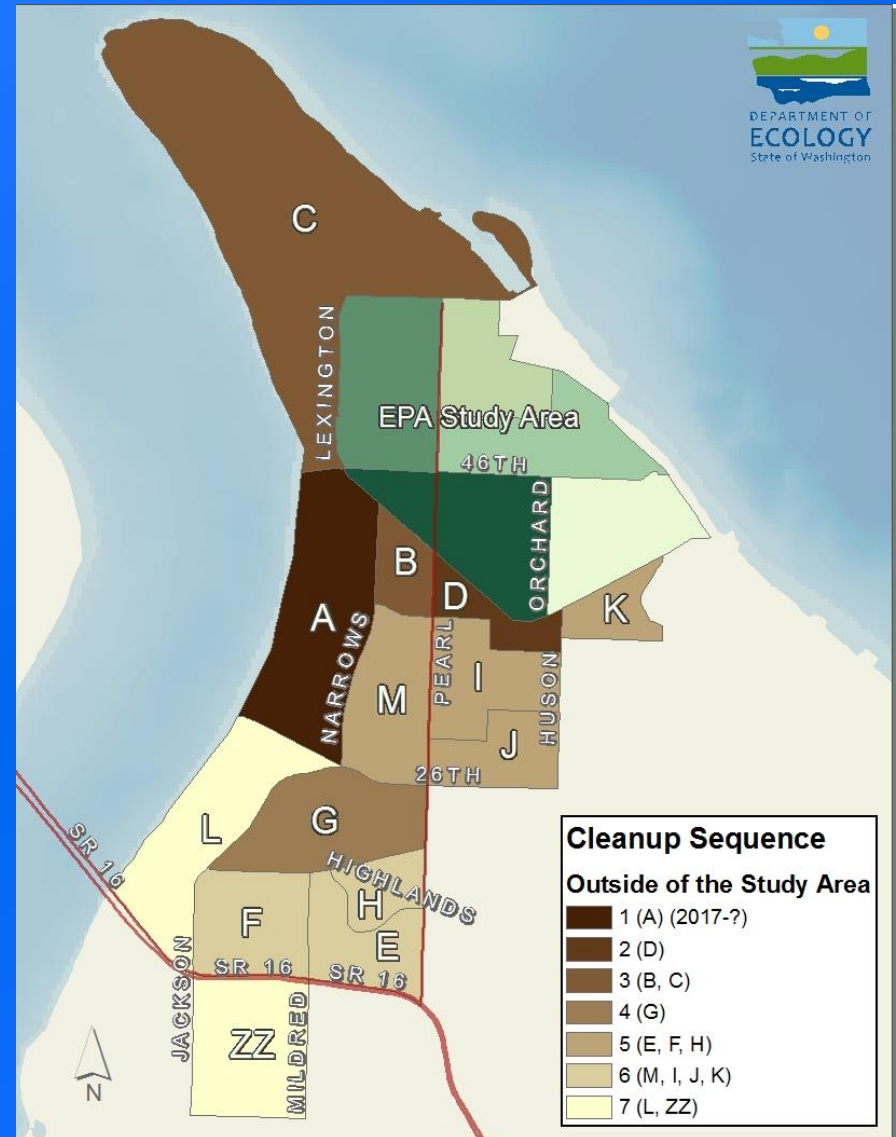
CLEANUP PLAN FOR ACCESS AGREEMENT

PROPERTY EPA ID: XX00
OWNER: OWNER
123 4TH ST, TACOMA, WA

Attachment B

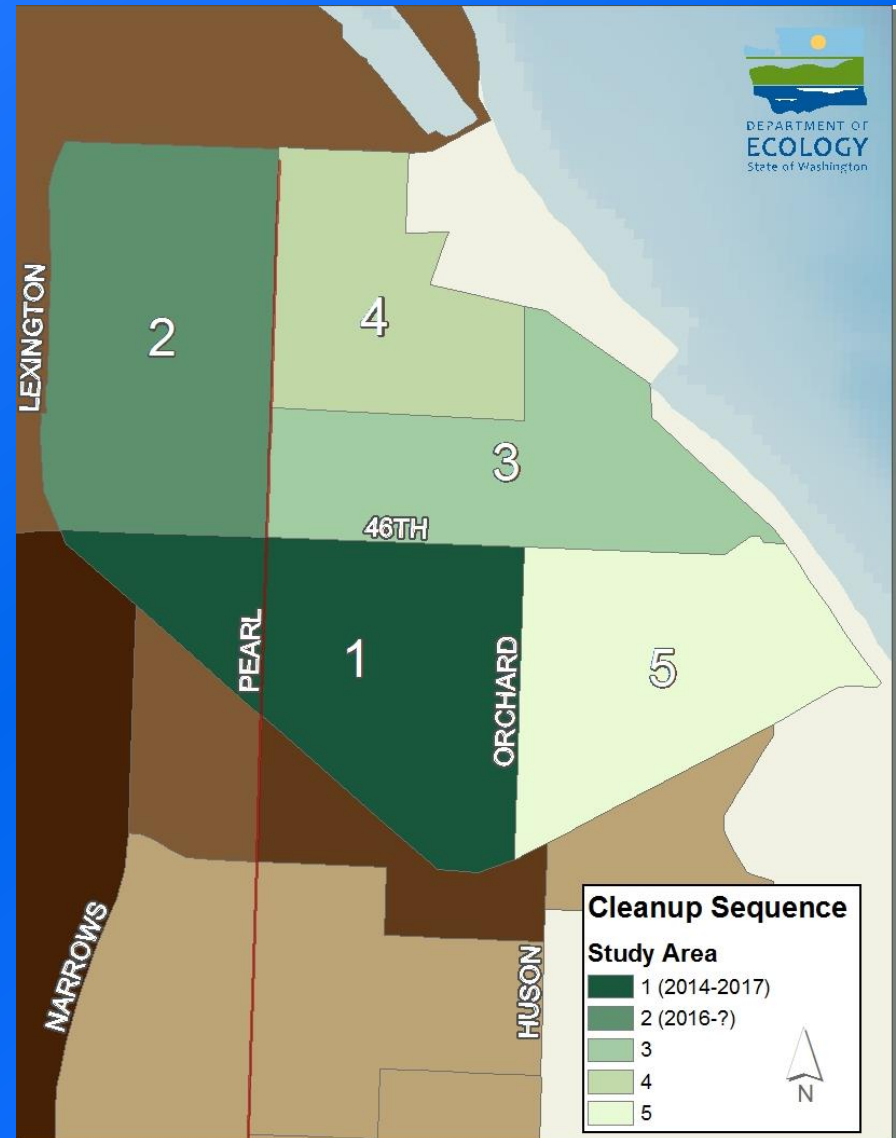
Soil Replacement Sequence

Sequence	Group	Total Properties
1	A	64
2	D	18
3	B	39
3	C	5
4	G	57
5	E	8
5	F	36
5	H	3
6	I	10
6	J	5
6	K	9
6	M	24
7	L	2
7	ZZ	24



Soil Replacement Sequence

Sequence	Total Properties
1	208
2	215
3	126
4	92
5	51



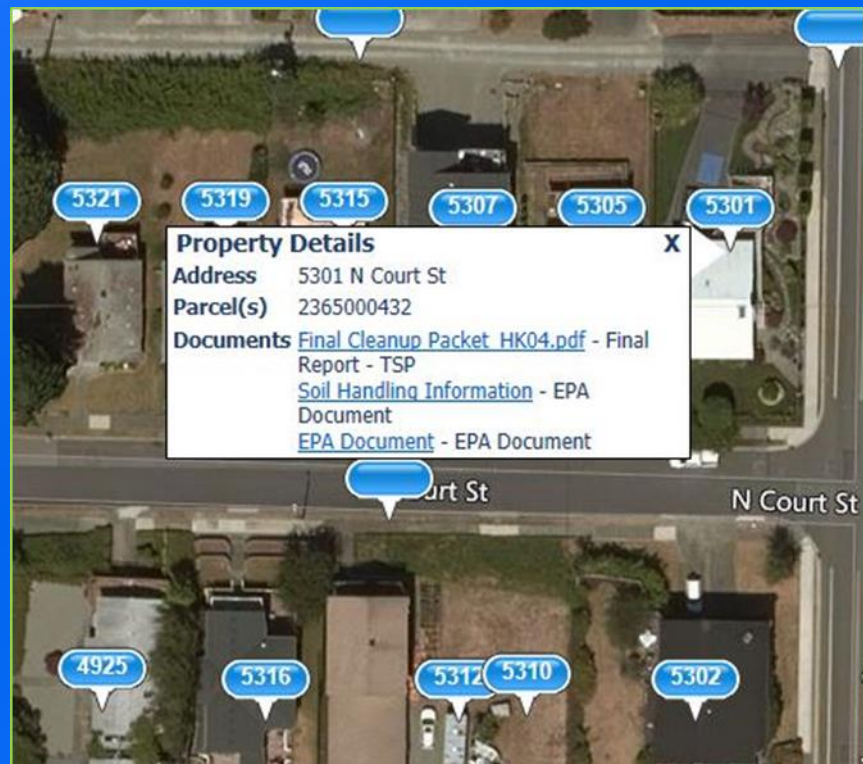
2015 Soil Replacement



Arsenic in Soil Database

Information:

- Results map & letter
- Cleanup documentation
- Out of program letters



www.dirtalert.info/myresults

Soil Safety Program

Free program for play areas at existing:

- Schools
- Licensed childcares
- Parks
- Camps
- Multi-family housing

❖ **Areas where children play**



Soil Safety Program Update

2006-2016

- Sampled over 1,000 child play areas
- Actions at over 100 child play areas

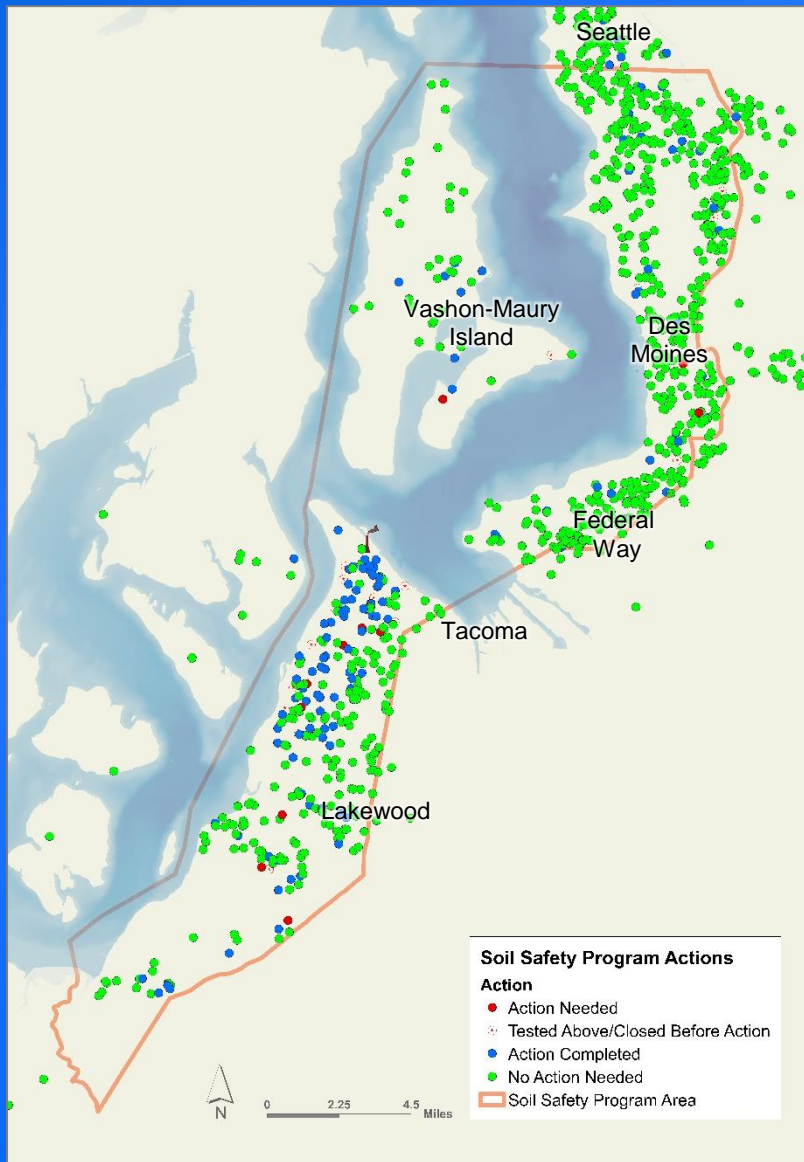
2017-2021

- Sandy Shores Park
- Morningside Farm Camp-Vashon
- Point Defiance Play Area-Tacoma
- Continue sampling play areas
- Continue actions at childcares

Soil Safety Program Update



Soil Safety Program Actions



Multi-family properties

Offer sampling:

- Play Areas
- In the Yard Program service area



Encouraging Voluntary Cleanup

- Can be done during construction.
- Protects current and future residents.
- Ecology has **guidance** for soil sampling and cleanup.

Dig up to make room for houses and landscaping

Landfill →

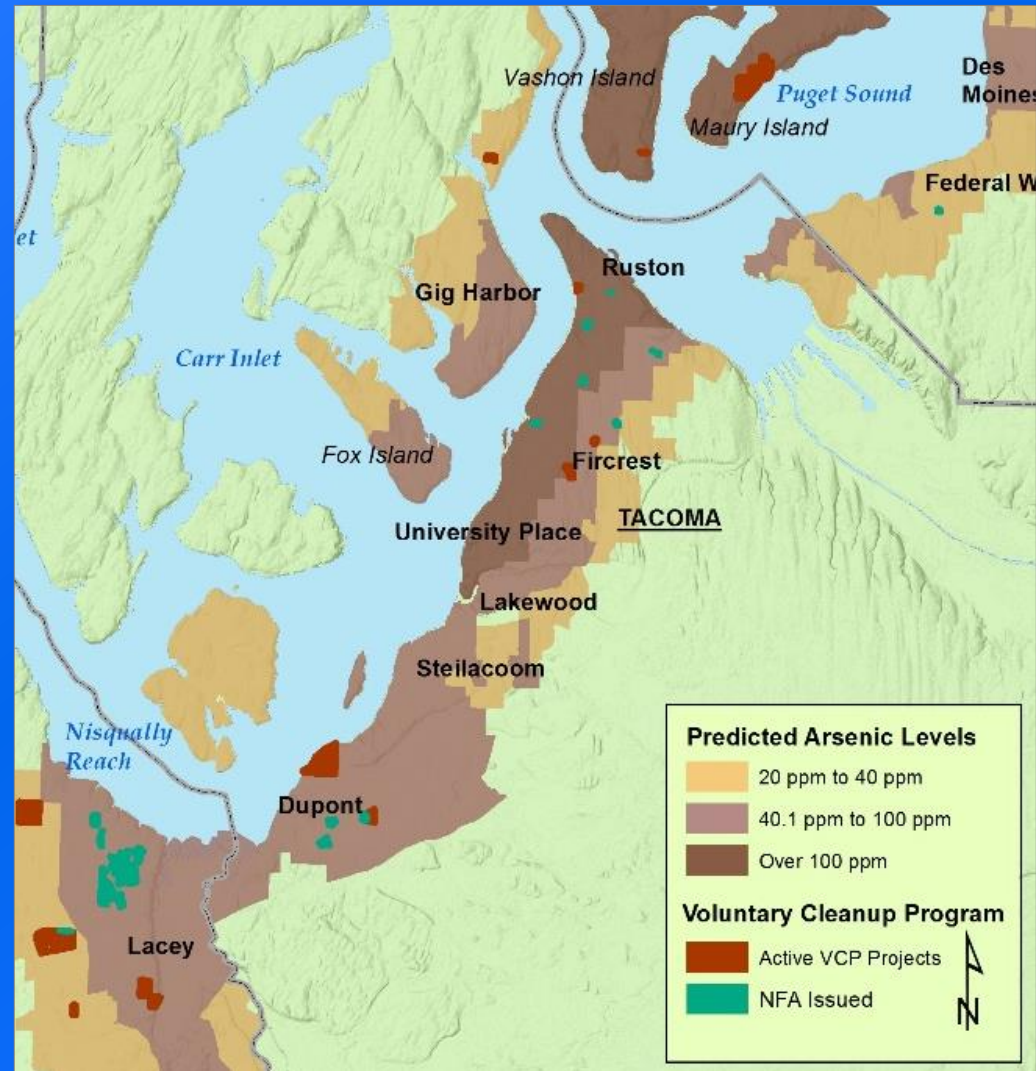
Contaminated surface soil

Cleaner, deeper soil



Technical Assistance

- 34 completed cleanup projects
- 348 acres of contaminated soil



Next Steps– Interim Action Plan

Goal: Protect human health for years to come

Integrate Soil Safety:

- Real Estate Community
- Local planning & permitting offices
- Department of Labor & Industries
- Department of Early Learning
- Office of Superintendent of Public Instruction



Phase Two



Questions on Phase Two

Contact

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Questions - Yard Program or Soil Safety Program

Contact

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Questions - Sampling or Healthy Actions

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