

Toxics Cleanup Program

October 2019

Cleanup Underway on Residential Yards

Ecology is using the majority of a \$94.6 million settlement from Asarco to clean up residential yards in Pierce and King counties. The goal is to reduce human health risk by cleaning up the most contaminated areas of the plume—Ruston, north and west Tacoma, and southern Vashon-Maury Island.

We partner with Tacoma-Pierce County Health Department (Health Department) to sample yards in Tacoma. Since 2013 the Health Department has sampled 3,046 yards (see page 2). Overall we have data on 5,816 yards in Tacoma, including results from the EPA's prior Superfund work. To date, we have replaced soil on 255 yards in the Tacoma area out of the 1,138 that qualify for soil replacement. We plan to clean up 58 yards in Tacoma during 2019 and 2020. In the entire Yard Program Service Area, 1,191 yards are slated for soil replacement. To date, we replaced soil on a total of 290 yards.

Protecting Children Where They Play

The Soil Safety Program provides free soil sampling and cleanup for child play areas at schools, parks, and childcares. Created through 2005 legislation, the program sampled over 1,000 child play areas. We also addressed over 100 play areas with 48 of those cleanups in Tacoma. During 2019 and 2020, we will replace soil at four childcares in the Tacoma area.

Funding Local Health Department Outreach

The Health Department received \$950,000 this biennium from Ecology to run the "Dirt Alert" program. This program raises awareness and promotes behaviors that reduce soil exposure, such as hand-washing, taking off shoes at the door, and covering bare patches of dirt in the yard. The Health Department initiatives include new homeowner outreach, events, and free home soil testing.

Encouraging Voluntary Cleanup

Property development presents a good opportunity to clean up contaminated soil. In 2018, a developer cleaned up 2.5 acres during the development of the Narrows Ridge Property into residential lots. Ecology also provided an opinion letter on the proposed cleanup during redevelopment of Narrows Glen senior living facilities. Overall, developers in Tacoma sampled 140 acres of land before development, and cleaned over 35 acres of land. The remaining 104 acres had arsenic and lead below cleanup levels and did not require cleanup.

This year Ecology updated its [Tacoma Smelter Plume Model Remedies Guidance](#). The guidance streamlines the sampling and cleanup process within the Tacoma Smelter Plume, eliminating the need to develop costly and time-consuming feasibility studies and sampling plans by the developers. The new guidance has updated information and links to resources and a new chapter. The new chapter focuses on sampling and remediation in natural areas, such as steep slopes, wetlands, and wetland buffers.

About the Tacoma Smelter Plume

Asarco's former copper smelter in north Tacoma emitted arsenic, lead, and other heavy metals. These pollutants were carried by the wind and settled on surface soils, creating the Tacoma Smelter Plume (page 6).

The Asarco Settlement: In 2009, the State of Washington received a settlement from Asarco for environmental damages. Ecology uses the \$94.6 million to manage risks from the Tacoma Smelter Plume through cleanup and outreach.

Federal, State, and Local Agencies Working Together

Since 1993, the U.S. Environmental Protection Agency (EPA) has overseen the Superfund cleanup of thousands of residential yards in Ruston and north Tacoma, as well as the smelter property itself.

In 2013, Ecology began cleaning up yards that did not qualify for EPA's cleanup. In addition, Ecology and the Health Department took over outreach work in the community. Through the Dirt Alert program we raise awareness and provide outreach and education.

Online Map: Residents can go to our online map and public database to find out if their yard was part of the Superfund or Ecology soil sampling and soil replacement work.

<https://apps.ecology.wa.gov/dirtalert/>

Tacoma Smelter Plume website:

<http://ecology.wa.gov/Tacoma-smelter>

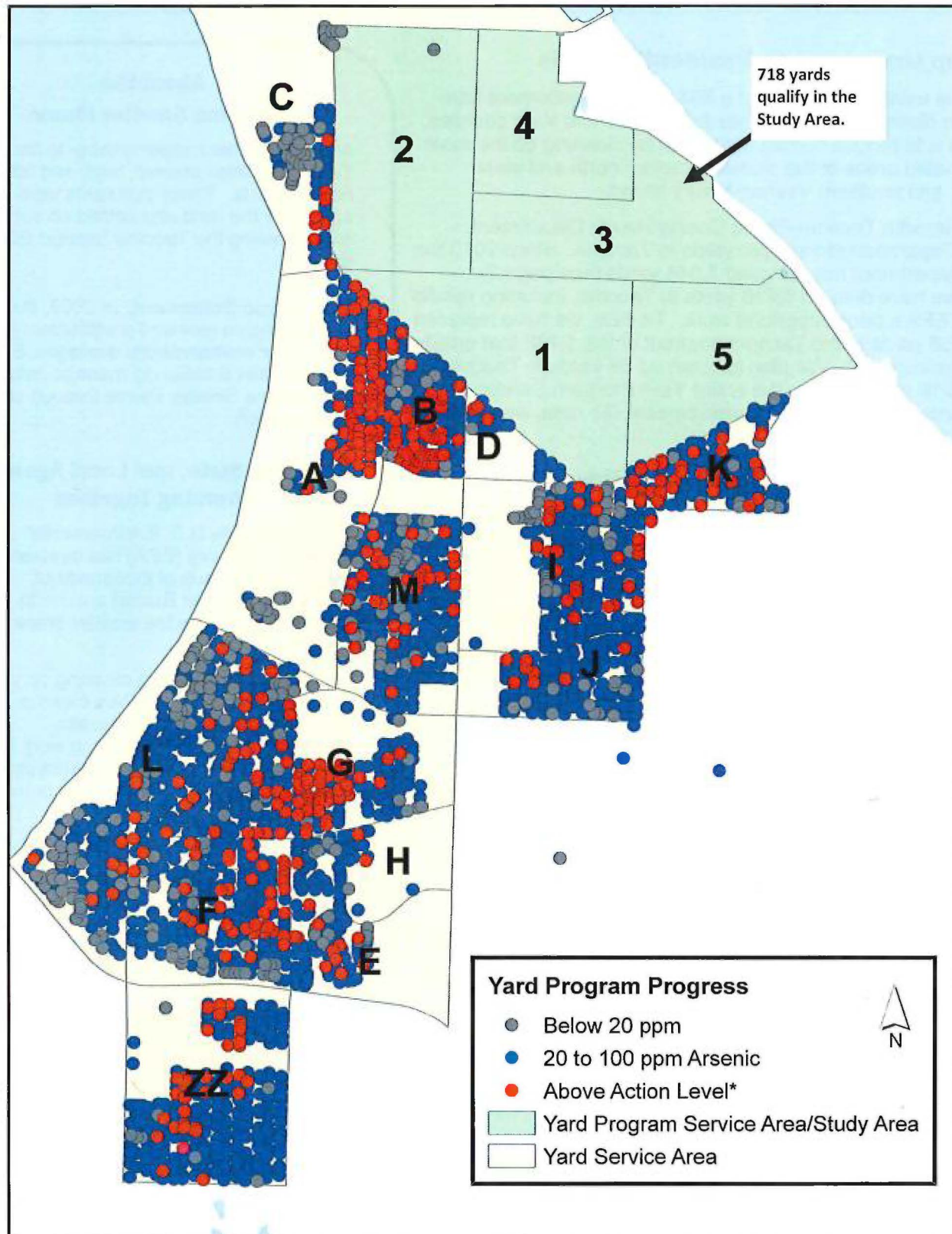
Dirt Alert Videos:

<http://youtu.be/IV4YUdCHJjE>

Contact: Marian Abbett
(360) 407-6257

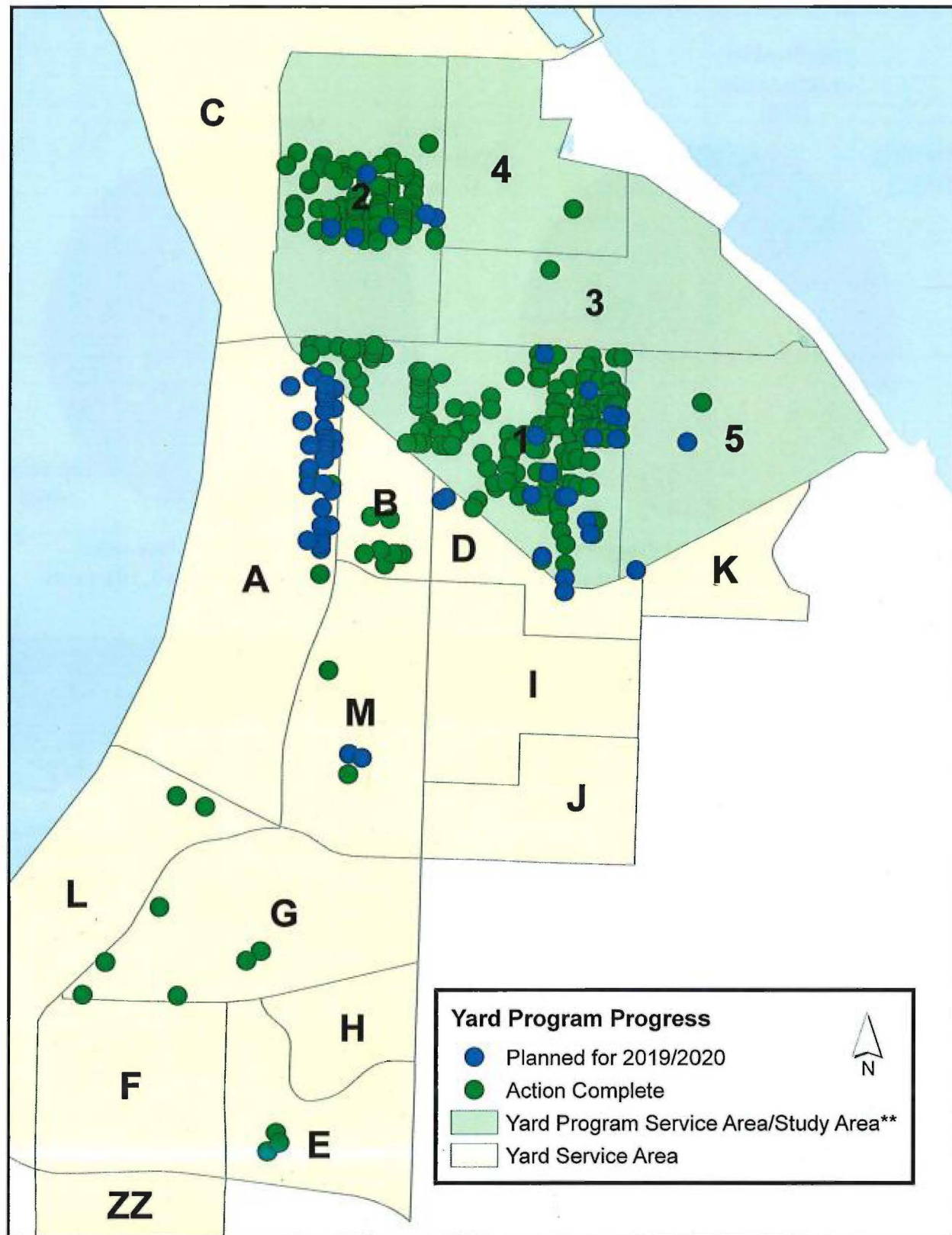
Marian.Abbett@ecy.wa.gov

Yard Program — Completed Soil Sampling in Tacoma



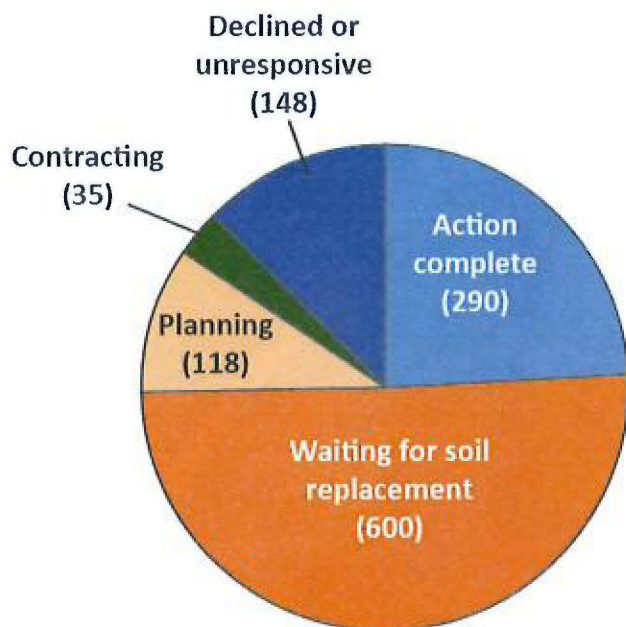
*Ecology's action level for arsenic is 100 parts per million (ppm) or above; for lead, it is 500 ppm or above. Properties marked "Above Action Level" include those with average arsenic or lead above the action levels. The map displays data from Yard Program Sampling efforts, and does not include EPA sampling data. This map was created in September 2019.

Yard Program — Soil Replacement Progress in Tacoma

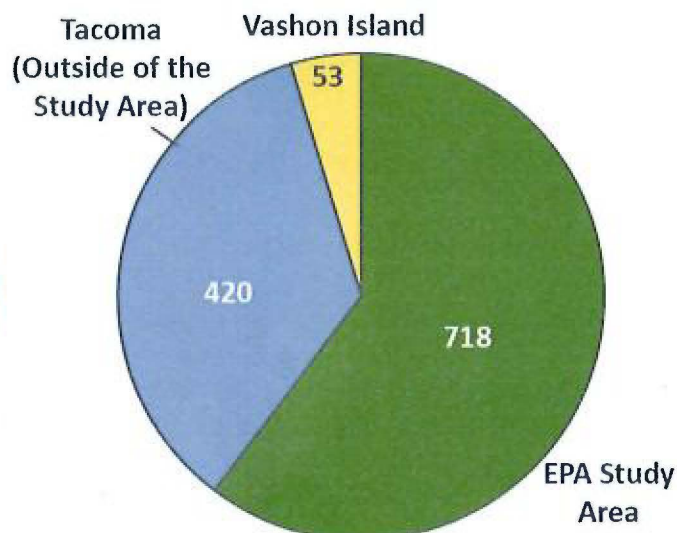


**The Study Area is where the Environmental Protection Agency oversaw the Superfund cleanup of thousands of residential yards in Ruston and north Tacoma (green area on map). Ecology is continuing the work that was started by the EPA over 20 years ago. This map was created in September 2019.

Yard Program – Soil Replacement Progress



Soil Replacement Progress
Total Yards = 1,191 yards



Qualify for Soil Replacement
Total Yards by location = 1,191 yards

Tacoma-Pierce County Outreach & Education efforts

Education and Outreach: The Tacoma Pierce-County Health Department (the Health Department) educates the public about reducing soil contact and encourages the community to take healthy actions to manage risk. Their efforts include hand-washing demonstrations in schools and childcares, outreach at community events, and one on one outreach during knock and talks and soil testing.

In 2019 the Health Department launched a pilot program encouraging residents to cover bare patches of soil in their yard. They also developed mulching instructions, created a resource card, and offered a discount on mulch at local retailers. Fifty-three residents participated in the pilot program. The Health Department is currently reviewing survey results, and evaluating if they will expand the program to the entire service area.

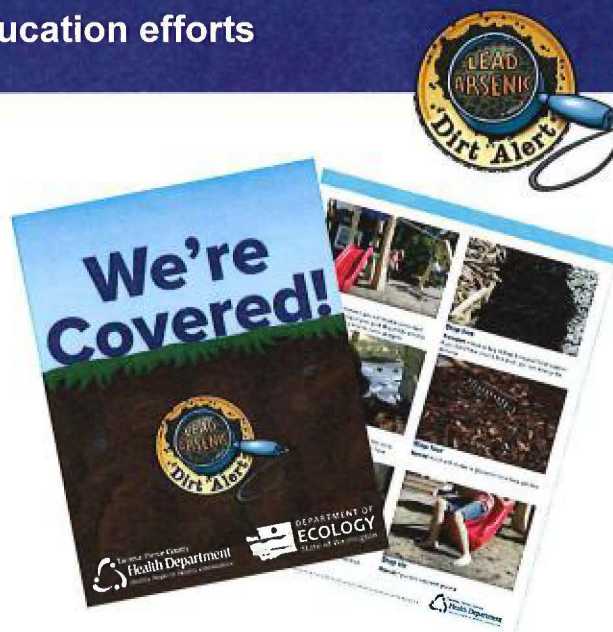


Figure 4: The Health Department's We're Covered window sign and mulching instructions. .

Web Map Application: Transforming and consolidating our data

The online map Dirt Alert launched in December of 2018. The map is accessible on mobile devices and computer. Residents can enter their address and find property-specific information for anywhere within the Tacoma Smelter Plume. Residents within the Yard Program service can see soil sampling and soil replacement data. The map sees an average of 1,000 online visitors each month.

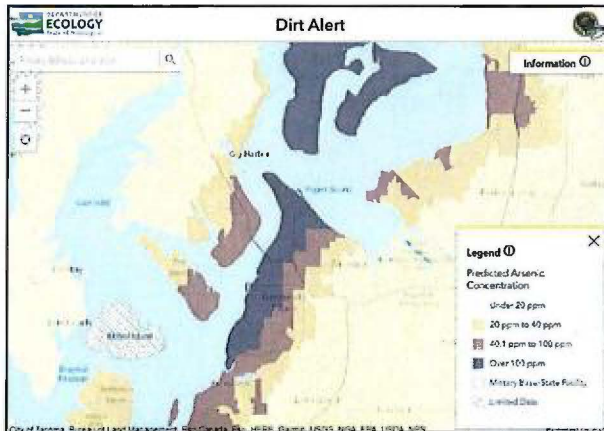


Figure 5: The start page of the dirt alert map: <https://apps.ecology.wa.gov/dirtalert/>

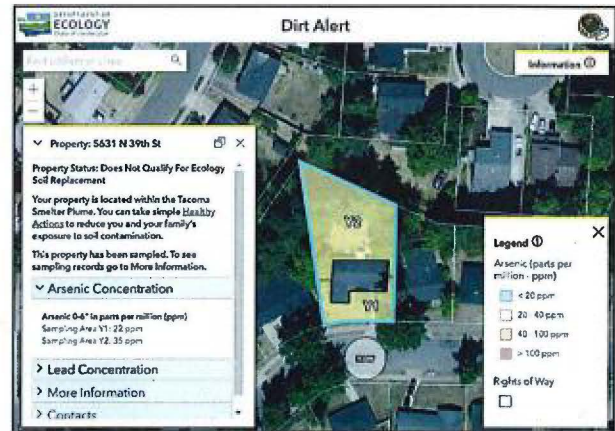


Figure 6: Residents can enter their address and see property-specific information.

<https://apps.ecology.wa.gov/dirtalert/>

Environmental Protection Agency: Survey and 5 year review process

The Tacoma Pierce-County Health Department (the Health Department) worked with the Environmental Protection Agency (EPA) to survey all residents within the EPA Study area (see Study Area on page 2).

Residents were asked questions on a range of topics from awareness of the Tacoma Smelter Plume to frequency of healthy action behaviors, like removing shoes at the door. Four hundred and fifty-seven residents responded to the survey, and 157 residents provided individualized comments.

The survey data will be incorporated into the EPA's 5 year review report, which will be available for review in 2020.

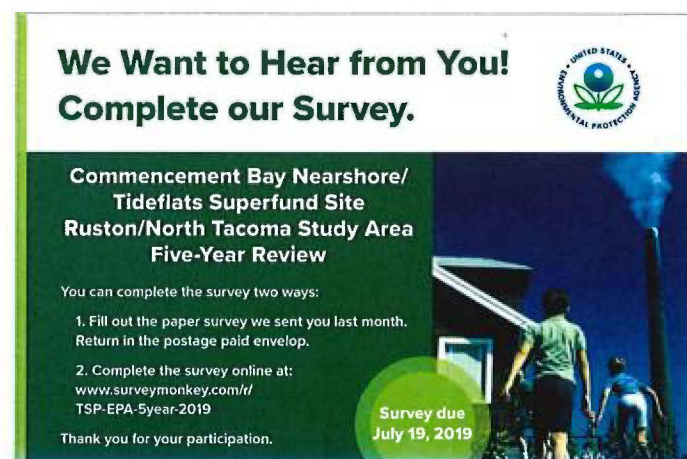
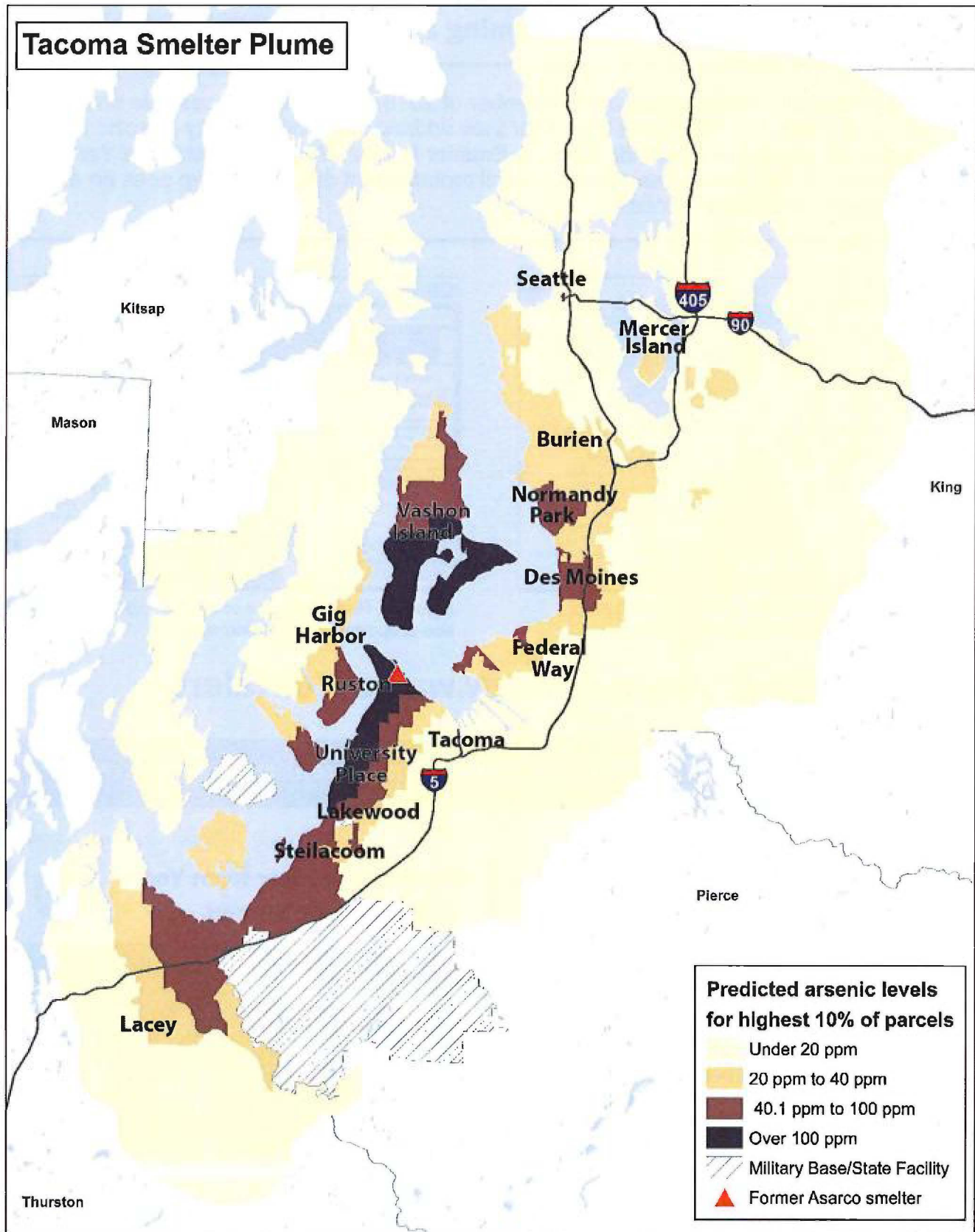


Figure 7: The postcard sent out to all residents within the EPA study area.



With 90% certainty, at least 1 in 10 parcels will have arsenic in soil at or above levels shown. Predictions are based on distance and direction from the former Asarco smelter, and on sampling data from forested and other soils undisturbed by development. Actual arsenic levels may vary greatly from parcel to parcel. Arsenic levels are shown in parts per million (ppm).