



Equity Analysis of Washington State Toxics Sites & the Model Toxic Control Act

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Executive Summary

Front and Centered conducted an equity analysis of toxic sites and the Model Toxics Control Act. We looked at how race and income correspond with toxic pollution, the Toxic Cleanup Program, and Public Participation Grants. Our findings show that just under half of all toxic sites in Washington State are located in areas that are disproportionately non-white and just over half of all toxic sites are located in areas that are disproportionately low-income. We assessed the prioritization mechanisms used by Ecology when they clean up toxic sites and found that the ranking system that is used is not sufficiently addressing equity.

We also analyzed the Public Participation Grant (PPG) program that awards community groups funds to involve communities in the cleanups of sites. We found that the PPG program has a goal of addressing equity but is not implementing that goal in practice. We found that the scoresheet and application for PPG's do not reflect equity elements in a way that would allow Ecology to prioritize environmental justice considerations. Our analysis indicated that approximately five percent of the grants were going to projects that prioritized environmental justice considerations.

There are some programs that are having an impact on environmental equity. The Remedial Action Grant (RAG) program considers "highly impacted communities" and that the RAG's are going in to areas that are disproportionately people of color and low-income in a way that mirrors the distribution of toxic sites across the state. We also recognized the importance of pollution prevention programs funded by MTCA and highlighted Ecology's Reducing Toxic Threats Program as an example.

Our recommendations for the Toxic Cleanup Program is to include an equity element within the Washington Ranking Method and to increase funding for the Remedial Action Grant.

Our recommendation for the Public Participation Grant is for Ecology to dramatically increase the award of grant money to projects that incorporate environmental justice. We recommend that Ecology accomplish this goal by adding equity elements into the PPG application and PPG evaluation scoresheet. We also recommend that Ecology increase outreach to environmental justice communities, and to provide assistance to new projects that may not have the capacity to manage a grant on their own.

Lastly, we recommend that pollution prevention funding be fully funded and that an environmental justice board be created. This board will be tasked with reviewing programs to ensure that environmental justice is adequately considered.



Introduction to MTCA

In 1988, voters passed Initiative 97, the Model Toxics Control Act (MTCA). In its 27-year history, the law has helped clean up roughly 6,600 toxic sites, equal to over four cleanups every week. Per the statute, revenues from a tax on hazardous substances fund cleanups at polluted sites, pollution prevention, and public participation grants to ensure that communities have a voice in toxics control.

These sites range from small projects like an old gas station or dry cleaner to large-scale cleanup sites like the Lower Duwamish River in Seattle or Commencement Bay in Tacoma. The law is also responsible for many positive pollution prevention and control measures including thousands of inspections at local businesses to ensure safe handling and storage of hazardous substances. The toxics law has removed nearly 250,000 mercury switches from cars and improved air quality through replacing dirty wood stoves and retrofitting diesel trucks with cleaner technologies.

In the most recent biennium, revenues that fund these cleanups declined with the price of oil and the legislature moving revenue to other purposes. Over 5,000 sites remain to be cleaned up. In the most recent fiscal year, public participation grants were defunded.

The goal of this report is to identify and encourage further research into whether toxic cleanup sites disproportionately impact communities of color and low-income people and if MTCA is being applied equitably. An impact can be defined in many ways, including proximity to sites, economic, and public health. As a first step, the report documents how the presence of toxic sites or the Remedial Action Grants relate to proportions of communities of color and low-income people and whether public participation grants were awarded equitably. This report also offers several recommendations that would improve environmental equity in the cleanup and prevention of toxic pollution.

Methodology

To understand the overlap of toxics, race and poverty, Front and Centered used Ecology's list of more than 12,000 toxic sites in Washington state and race and income from the U.S. Census Bureau's 2014 American Community Survey. To determine the number of people of color, we used the inverse of the number of people who were marked white alone, not Hispanic or Latino. Low-income was defined as families whose annual income is less than 200 percent of the poverty line, which in 2016 was equal to \$48,600 for a family of four.¹ Then we determined the census tracts that were disproportionately people of color and disproportionately low-income. We defined disproportionality as any census tract with a low-income and/or non-white population that is above the county average.

In our analysis of Remedial Action Grants (RAG), we reviewed information from Ecology relating to how much Remedial Action Grant funding was associated with different toxic sites. We conducted the same race and income analysis that we did for toxic sites with RAG funding.



We assessed Public Participation Grants by looking at the grant award history located in the 2015-2017 PPG Program Guidelines.² To determine whether grants serve environmental justice communities we looked at the grant purpose associated with each grant.

For the demographic information in the maps, we used a Social Vulnerability Index (SVI). The SVI calculates overall social vulnerability for communities based on 15 factors, including minority status, English proficiency, income, age, employment, and more. They also create indexes for specific themes like socioeconomic status, which combines four different factors (income, employment, poverty, and high-school graduation), and minority status & language, which combines two different factors (race and language). More information on the SVI can be found in this endnote.³ Toxic site information on the maps is represented by dots that represent how many toxic sites are in a census tract. Only sites ranked three or lower (worse) on a scale of five that are awaiting clean-up are included. The more yellow the dot, the more sites in the vicinity.

Equity is defined as proportionally addressing and redressing the historic and/or systemic disadvantage or overburdens of specific communities, most often people of color, people with low incomes and wealth, and non-English speaking people. There are many other MTCA-related issues that would benefit from equity analyses, including MTCA's funding source, the hazardous substance tax. This was not within the scope of this exploratory report.

Disproportionality of toxic pollution

Toxic pollution has a direct impact on communities of color and people with lower incomes all over the country, including here in Washington state. Nationally, people of color are significantly more likely to live near hazardous waste facilities, putting them at a higher risk for toxic pollution.⁴ Poverty rates are also much higher in neighborhoods that host hazardous waste sites.⁵ This disparity has been increasing over the last two decades.⁶ Communities of color and low-income communities are in much closer proximity to dangerous toxic sites all over the country.

The disproportionate impact of toxic pollution on communities of color and low-income communities is evident here in Washington state. Front and Centered has found that 46 percent, almost half, of all toxic sites in Washington are located in census tracts that are disproportionately people of color. An even higher number, 56 percent, are located in census tracts that are disproportionately low-income. Toxic pollution, as burden additional low income and barriers faced by people of color, rests heavy on communities of color and low-income households in Washington State.

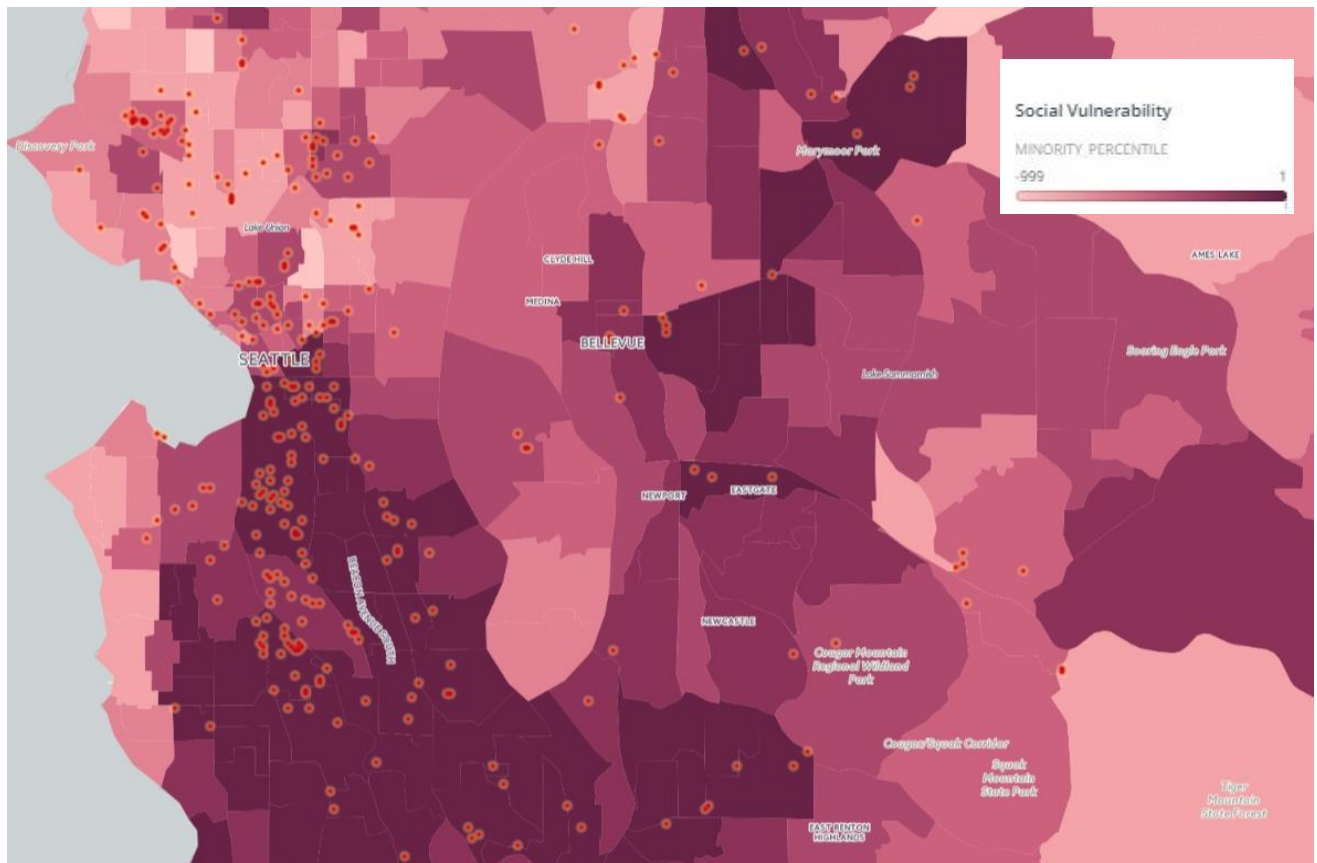


Figure 1 –Toxic sites in the King County area awaiting cleanup overlaid with the SVI index of minority status & language.

Toxic chemicals in consumer products also significantly impact the most environmentally burdened communities. For example, non-white toddlers have twice the amount of PBDE flame retardants in their blood than white toddlers⁷ and lower household income are associated with increased blood levels of PBDE's.⁸ Many other toxic chemicals like BPA, phthalate, and lead are also more likely to be found in low-income individuals and people of color. For example, low-income individuals are more likely to live to live in a home with lead-based paint hazards than higher income households.⁹

The burden of toxic pollution creates disproportionate health outcomes for communities of color and low-income communities. Hazardous waste and toxic chemicals can cause serious health issues, including cancer. Many of the health effects are most pronounced in children. These chemicals can cause neurodevelopmental effects in children including motor, cognitive, and behavioral performance.¹⁰ Lead has been associated with a loss in IQ and delays in physical growth and mental development.¹¹



Equity in Model Toxics Control Act

Washington's Toxic Cleanup Program

One of the main arguments used in favor of passing Initiative 97, the 1988 ballot measure that created MTCA, was that it would enable the state to create an effective toxic cleanup program.¹² Washington's Toxic Cleanup Program, funded by MTCA revenue, is responsible for finding solutions to fix and clean up contaminated sites in Washington.

As mentioned earlier, almost half of all toxic sites are located in areas that are disproportionately people of color and more than half of all toxic sites are located in areas that are disproportionately low-income. As identified in the preceeding section, many toxic sites reside near communities of color and low-income communities, and thus must be sufficiently prioritized for cleanup efforts. In Figure 2, we can see that in the case of Yakima, WA, the toxic sites that are the most dangerous are predominantly located in areas with higher person of color and populations that do not speak English at home. The Toxic Cleanup Program is responsible for facilitating the cleanup of toxic sites in a way that is equitable to the communities who are overburdened by toxic pollution, which is a goal that Ecology has acknowledged.¹³

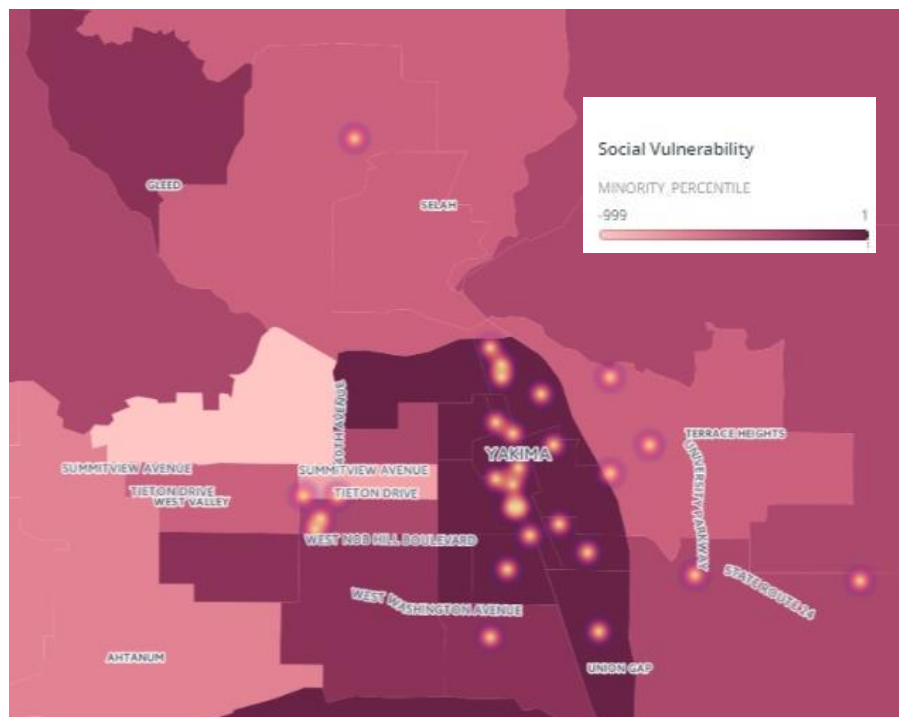


Figure 2 - Toxic sites in Yakima awaiting cleanup ranked 1, 2, and 3 and overlaid the SVI index of minority status & language..



One of the main ways Ecology prioritizes toxic sites is through use of the Washington Ranking Method (WARM). Ecology assesses the potential threat to human and environmental health of each toxic site. Sites are then ranked between one and five, with one representing the highest level of concern and five representing the lowest. The analysis that goes into the ranking include characteristics of the toxic substance, characteristics of the site, and the potential of exposure.¹⁴ The exposure potential is determined by looking at how many people live around the site, sensitivities of the surrounding environment, and how surface water or ground water is used.¹⁵

Ecology does not assess, however, whether those who are most burdened by toxic pollution or face social and economic barriers are also at risk of exposure from the toxic site. Our research also seems to confirm that equity is not factored into the rankings. Areas that have a disproportionate people of color population and low-income population do not appear to have sites that are ranked higher.¹⁶ As a result the communities that are most vulnerable to the negative effects from a toxic site and also not likely to be able to afford cleanups themselves are not given any prioritization by the Department of Ecology.

In many cases Ecology's prioritization of sites can focus not just on the ranking system but also on whether there are private parties willing to pay the costs of cleanup. Private parties willing and able to pay for costs of a cleanup may not exist in low-income communities and communities of color as often as they do in more affluent and white communities.

Remedial Action Grants

Remedial Action Grants are one of the main ways Ecology helps fund cleanups of toxic sites. These grants are awarded to local governments to help them independently cleanup toxic sites. For the 2013-2015 biennium, the Legislature appropriated \$62,537,000 to the Remedial Action Grants and Loans Program.¹⁷ Ecology solicits grant projects from local government, ranks them according to guidelines and criteria, and then puts them into a prioritized funding list.¹⁸

The Remedial Action Grant and Loans Program is one the areas of MTCA that requires Ecology to consider environmental justice communities. During the grant prioritization process Ecology is required to consider "highly impacted communities" when analyzing applications.¹⁹ A highly impacted community is defined as "a community that the department has determined is likely to bear a disproportionate burden of public health risks from environmental pollution."²⁰ As we know, based on results above, communities of color and low-income communities do face a disproportionate burden of toxic pollution.

Likely because of the inclusion of the environmental justice criterion, Remedial Action Grant funding has been relatively equitable. Our research has shown that from 2005 – 2013, 42 percent of grant money went to areas that are disproportionately people of color and 60 percent went to areas that are disproportionately low-income.²¹ As seen in Figure 3, this largely mirrors the percentage of toxic sites that are awaiting cleanup, 46 percent of which are located in areas disproportionately people of color and 57 percent are located in areas disproportionately low-income.²²

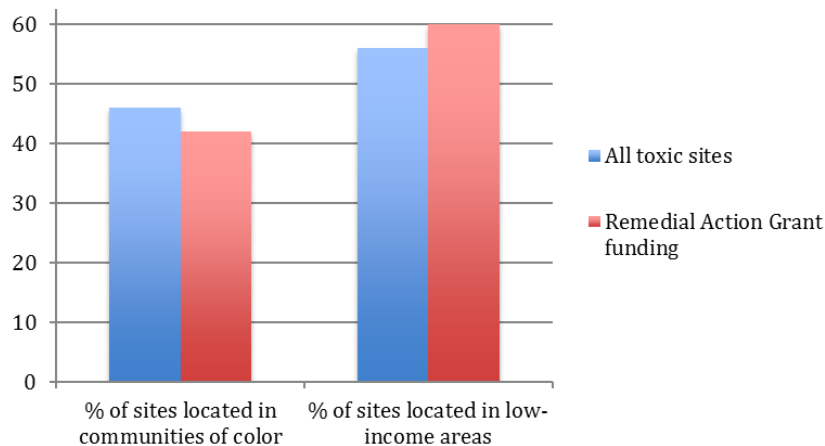


Figure 3 – Funding and toxic sites in census tracts that are disproportionately people of color or low-income

Public Participation Grants

Another type of grant funded by MTCA is the Public Participation Grant (PPG). The grant provides funding for citizen groups and non-profit public interest organizations. The two main types of PPG's are Contaminated Site Projects, which encourage public involvement in site cleanups, and Waste Management Projects, which encourage public involvement in eliminating or reducing waste. MTCA, as passed by voters in 1988, requires Ecology to set aside at least one percent of revenues from the Hazardous Substance Tax for the specific purpose of funding PPG's. The legislature appropriates a specific amount each biennium. For example, in the 2013-2015 funding cycle the legislature appropriated \$3.53 million.

PPG's are an opportunity to encourage involvement and participation by those communities most affected by toxic pollution, particularly communities of color and areas with people earning lower incomes, however, over the last 10 years the grants have not been directed this need. From 2005-2015, only five percent of PPG money went to projects that explicitly aimed to involve communities of color and/or low-income communities.²³ While our analysis is limited by how PPG applicants described their projects and is likely a slight undercount of the total number of projects with environmental justice components, five percent is nowhere near equitable when 46 percent of toxic sites are located in communities of color and 56 percent are located in low-income communities.

While Ecology did include environmental equity in their 2015-2017 PPG program guidelines, these guidelines are not sufficiently followed and fail to show up in results. For example, the 2013-2015 PPG guidelines state that Ecology encourages the inclusion of grants that address environmental equity issues and have a positive effect in "diverse, low-income communities."²⁴ The guidelines also state that consideration will be given to projects that serve economically disadvantaged areas.²⁵

While it is good step to ask PPG applicants to include projects that serve disadvantaged populations, the PPG application itself does not include any questions relating to environmental



justice or environmental equity. Ecology leaves it up to the applicant to decide whether to include information about equity or environmental justice. Once applications are received, Ecology uses an evaluation scorecard to evaluate PPG applications. The evaluation scorecard does not allow reviewers to award any points to applicants based on environmental justice or environmental equity considerations. All categories are silent on those considerations. Despite the PPG guidelines, there is no mention of environmental equity or economically disadvantaged areas on the evaluation scorecard.

Pollution Prevention Programs

MTCA is also used to fund various toxic pollution prevention programs. For these, most of the money comes from the State Toxics Control Account (STCA). The programs promote pollution prevention and safe waste management through technical assistance to businesses, inspections of hazardous waste generators, storage and disposal facilities, and more.²⁶



Figure 4 - All toxic sites in Aberdeen-Hoquiam awaiting cleanup ranked 1, 2, and 3 and overlaid with the Social Vulnerability Index

While there is no environmental justice oversight of these funds, many of the programs funded are successfully decreasing the burden of toxic pollution on overburdened populations. Because toxic exposure from toxic sites and toxic chemicals significantly and disproportionately affects communities of color and low-income communities the pollution prevention effort is vital to these communities. One such program is Ecology's Reducing Toxic Threats Program, which focuses on implementing actions to reduce or eliminate their use.²⁷ Currently, about 92 percent



of the funds for this program comes from MTCA.²⁸ This program is designed to prevent pollution upstream so local communities do not experience exposures in the first place. The program has resulted in action plans for PBDE's, mercury, lead, PCB's, and PAH's, which have prevented thousands of pounds of chemicals in consumer products.²⁹ In addition, this program also allows Ecology to test thousands of consumer products for chemicals, help identify safer alternatives to chemicals, and implementing Washington's Children's Safe Products Act, which limits the amount of chemicals allowed in children's products and requires reporting of specific chemicals.³⁰ While we know that pollution prevention programs generally help those who are most burdened by toxic pollution, we do not know how these programs factor in equity, if at all. There is no equity requirement or analysis for these funds.

Recommendations

Toxic cleanup program

Update the Washington Ranking Method (WARM) to include equity considerations. In order to improve how Ecology prioritizes toxic sites for cleanups, the WARM score must consider how toxic sites will impact communities that are disproportionately low-income and people of color. As part of the work that leads to the final WARM score, Ecology should create an "equity score" that reflects the potential exposure risk from toxic sites for communities of color and low-income communities.

Increase funding for Remedial Action Grants. The Remedial Action Grants and Loans Program is one of the areas where equity is considered and the consideration appears to show when we looked at whether the communities who need those funds are getting those funds. Ecology should continue to use the "highly impacted communities" criteria.

Public Participation Grants

Award PPG's to projects that serve disadvantaged communities proportional to the burden of toxic pollution on disadvantaged communities. PPG's should go to projects that address environmental inequity, including service communities of color and low-income communities. The approximately five percent of PPG's that serve these communities is drastically insufficient and Ecology should aim to reach 46 percent for communities of color and 56 percent for low-income communities within two PPG cycles.

Increase outreach to increase awareness of the availability of PPG's. In order to ensure that Ecology gets applications from disadvantaged communities, Ecology should increase outreach within these communities and promote PPG's as an opportunity for these communities to take control of how toxic pollution is managed in their own areas. This outreach should be done by community-based organizations and be multilingual and culturally appropriate.

Prioritize new PPG applicants over repeat applicants for two cycles. To ensure that new groups who serve disadvantaged and overburdened communities who have not received PPG's in the past have more incentive to apply for PPG's Ecology must prioritize new applicants.



Currently new applicants are given 10 points, this should be increased to 20 points. This should only be in effect for two cycles and then revert back to 10 points. This will help Ecology reach the goal of awarding PPG's in a more equitable manner over the next two cycles.

Reflect the PPG guidelines in PPG evaluation scorecard. Ecology's PPG guidelines state that environmental equity factors will be considered, however, this is not represented in the evaluation scorecard. The scorecard must give reviewers an opportunity to award applicants points based on how well the grant would advance environmental equity and/or how it will serve communities overburdened by toxic pollution. The scorecard should also be available to applicants as part of the guidelines.

Ask about environmental equity in the PPG application. In order to score PPG applications based on equity considerations the PPG applications should ask whether the grant would be used to advance environmental equity considerations and/or how it will serve communities overburdened by toxic pollution.

Require PPG recipients to report on equity. PPG recipients should be required to provide information regarding how the grant money is being used to facilitate and advance environmental equity considerations and/or how the grants serve communities overburdened by toxic pollution. A public report should also be published prior to each PPG grant cycle.

Provide technical assistance to PPG recipients. Many organizations from underserved communities may not have the capacity to easily manage PPG reporting requirements and grant management. Ecology should aim to help these groups by providing technical assistance to ensure they can confidently apply for PPG's or provide exemption from some requirements for groups below as specified size.

Pollution Prevention Programs

Increase pollution prevention program funding. Much of the pollution prevention funding that comes out of MTCA goes towards important programs like the Reducing Toxic Threats Program. These programs help reduce the burden of toxic pollution on those communities that are impacted by toxic pollution the most.

Require programs that receive MTCA funding to conduct an equity analysis. Programs that receive pollution prevention funding from MTCA must be required to report on how their programs serve communities that overburdened by toxic pollution and face barriers of social and economic disadvantages. The results should be published publicly on the Ecology website and shared digitally with past and present grant recipients.

Create an environmental justice oversight board. Ecology should have an environmental justice oversight board that, among other things, reviews how MTCA money is being used to reduce the burden of toxic pollution on disadvantaged communities. The board should be able to make recommendations as to funds should be used.

Appendix – Additional Maps

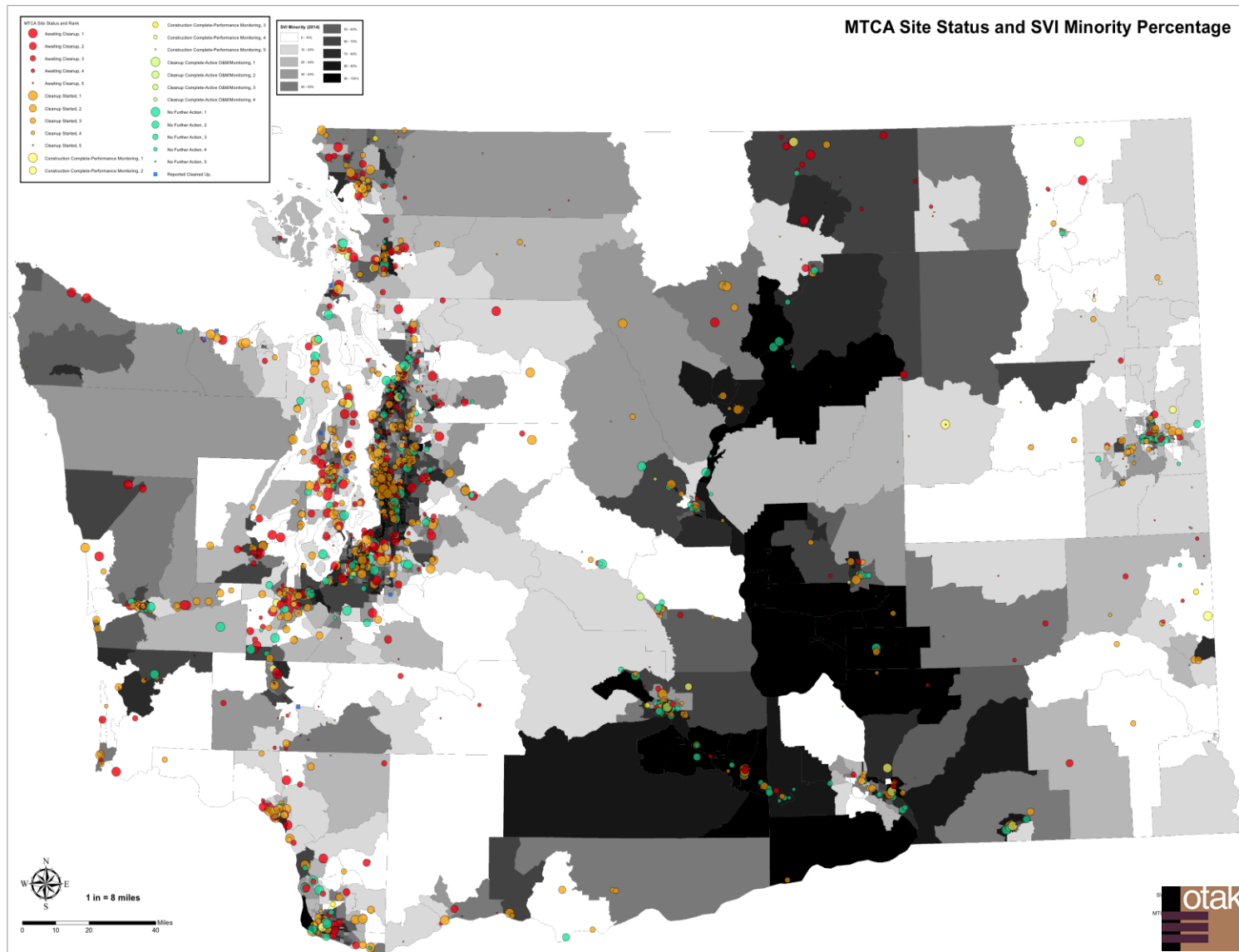


Figure 5 - Statewide map of all toxic sites overlaid with SVI minority & language index
Mapping support for this project provided in-kind by Jesse Reynolds, OTAK

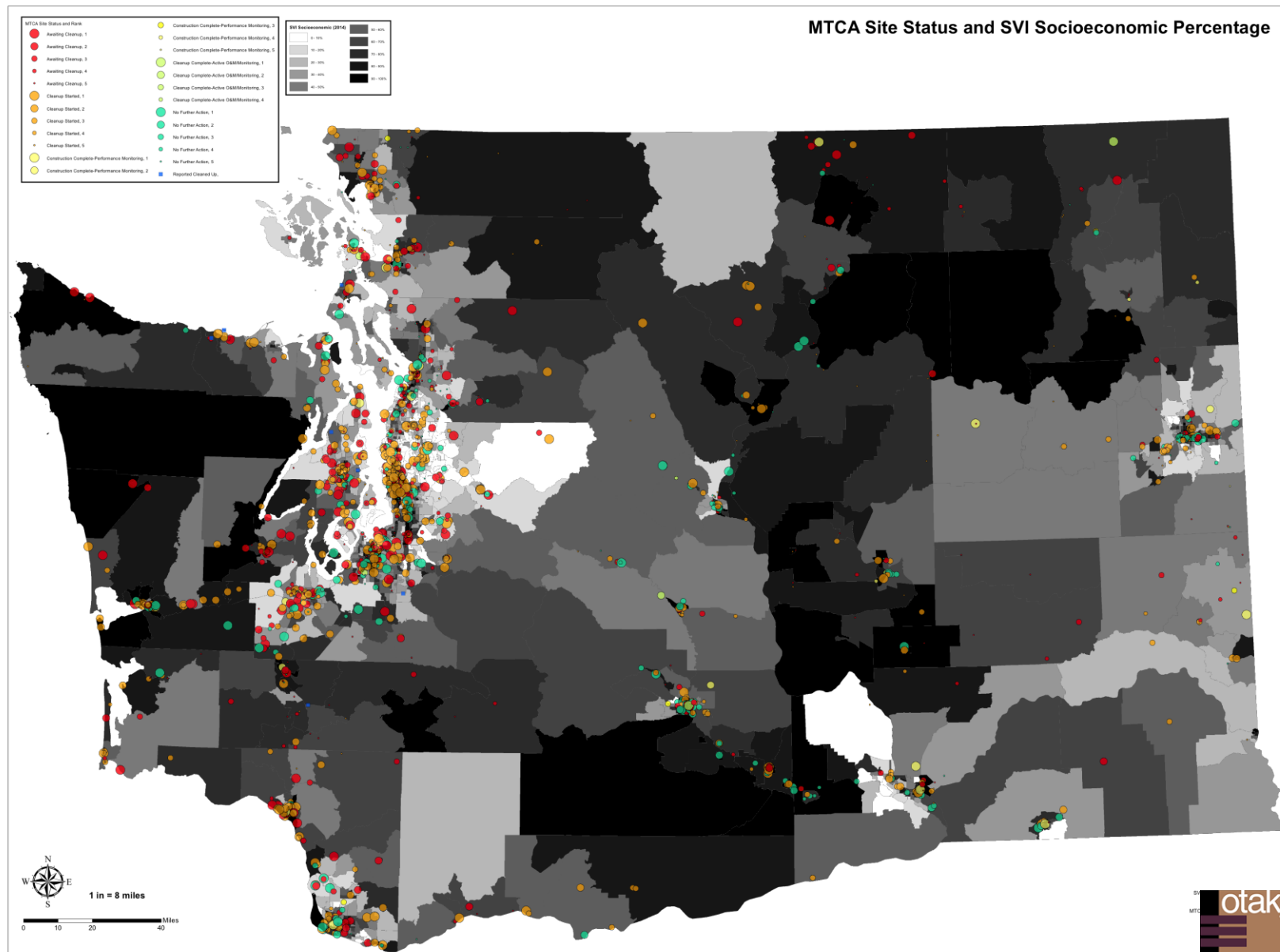


Figure 6 - Statewide map of all toxic sites overlaid with SVI socioeconomic index



Endnotes

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- ¹ Federal Poverty Guidelines, Families USA (Feb 2016) <http://familiesusa.org/product/federal-poverty-guidelines>
- ² Public Participation Grants Program Guidelines 2015-2017
<https://fortress.wa.gov/ecy/publications/documents/1407027.pdf> at C-2
- ³ SVI 2014 Documentation.
https://svi.cdc.gov/Documents/Data/2014_SVI_Data/SVI2014Documentation.pdf
- ⁴ Bullard, Robert D., Paul Mohai, Robin Saha, and Beverly Wright, “[Toxic Wastes and Race at Twenty: Why Race Still Matters After All of These Years](#),” *Lewis & Clark Environmental Law Journal* 38 (2): 2008. Available at: <https://sph.umich.edu/symposium/2010/pdf/bullard1.pdf>
- ⁵ Bullard, Robert D., Paul Mohai, Robin Saha, and Beverly Wright, “[Toxic Wastes and Race at Twenty: Why Race Still Matters After All of These Years](#),” *Lewis & Clark Environmental Law Journal* 38 (2): 2008. Available at: <https://sph.umich.edu/symposium/2010/pdf/bullard1.pdf>
- ⁶ Bullard, Robert D., Paul Mohai, Robin Saha, and Beverly Wright, “[Toxic Wastes and Race at Twenty: Why Race Still Matters After All of These Years](#),” *Lewis & Clark Environmental Law Journal* 38 (2): 2008. Available at: <https://sph.umich.edu/symposium/2010/pdf/bullard1.pdf>
- ⁷ Stapleton, H. M., Eagle, S., Sjodin, A., & Webster, T. F. (2012). Serum PBDEs in a North Carolina toddler cohort: Associations with handwipes, house dust, and socioeconomic variables. *Environ Health Perspect*, 1049 - 1054(7).
- ⁸ Stapleton, H. M., Eagle, S., Sjodin, A., & Webster, T. F. (2012). Serum PBDEs in a North Carolina toddler cohort: Associations with handwipes, house dust, and socioeconomic variables. *Environ Health Perspect*, 1049 - 1054(7).
- ⁹ Cox, David C., Gary Dewalt, Robert O’Haver, and Brendon Salatino. 2011. *American Healthy Homes Survey: Lead and Arsenic Findings*. Washington DC: US Department of Housing and Urban Development, Office of Healthy Homes and Lead Hazard Control.
- ¹⁰ Herbstman, J. B., Sjodin, A., Kurzon, M., Lederman, S. A., Jones, R. S., Rauh, V., . . . Perera, F. (2010). Prenatal exposure to PBDEs and neurodevelopment. *Environ Health Perspect*, 118(5), 712 - 719.
- ¹¹ Laurie Valeriano, Executive Director, Toxic Free Future.
- ¹² Office of the Secretary of State, State General Election Voter and Candidate Pamphlet (1988), available at: <https://www.sos.wa.gov/assets/elections/Voters%20Pamphlet%201988.pdf>
- ¹³ Remedial Action Grants for Local Governments 2013-2015 Guidance
<https://fortress.wa.gov/ecy/publications/documents/1409058.pdf> at 11
- ¹⁴ Focus on Washington Ranking Method, Department of Ecology, available at: <https://fortress.wa.gov/ecy/publications/documents/ftc91107.pdf>
- ¹⁵ Focus on Washington Ranking Method, Department of Ecology, available at: <https://fortress.wa.gov/ecy/publications/documents/ftc91107.pdf>
- ¹⁶ Front and Centered Analysis
- ¹⁷ Remedial Action Grants for Local Governments 2013-2015 Guidance
<https://fortress.wa.gov/ecy/publications/documents/1409058.pdf> at pg 3
- ¹⁸ Remedial Action Grants for Local Governments 2013-2015 Guidance
<https://fortress.wa.gov/ecy/publications/documents/1409058.pdf>
- ¹⁹ WAC 173-322A-320
- ²⁰ WAC 173-322A-100
- ²¹ Front and Centered Analysis
- ²² Front and Centered Analysis
- ²³ Front and Centered Analysis



²⁴ Public Participation Grants Program Guidelines 2013-2015

<https://fortress.wa.gov/ecy/publications/documents/1207060.pdf>

²⁵ Public Participation Grants Program Guidelines 2013-2015

<https://fortress.wa.gov/ecy/publications/documents/1207060.pdf>

²⁶ Public Participation Grants Program Guidelines 2013-2015

<https://fortress.wa.gov/ecy/publications/documents/1207060.pdf> at 16

²⁷ Reducing Toxic Threats, Department of Ecology. <http://www.ecy.wa.gov/toxics/index.htm>

²⁸ Correspondence with Reducing Toxic Threats Program

²⁹ Laurie Valeriano, Executive Director, Toxic Free Future.

³⁰ Reducing Toxic Threats, Department of Ecology. <http://www.ecy.wa.gov/toxics/index.htm>