

Environmental Racism in the Ocean State: Waste Sites in Rhode Island's Underprivileged Areas



Julienne Walsh, Dr. Adam Myers, Dr. Rachael Bonoan, Dr. Peter Rodgers

Background

Environmental racism refers to the disproportionate impact of environmental hazards on communities of color and low-income populations. Across the U.S., studies have shown that polluting facilities are more likely to be in or around communities with higher percentages of non-white residents or lower socioeconomic status. Scholarship regarding these patterns in small states like Rhode Island is relatively limited. By analyzing how these sites are spatially distributed in relation to racial and economic demographics, this research aims to contribute to a deeper understanding of local environmental inequities. I hypothesize that the if you live in a low-income or more diverse town, you are more likely to be exposed. I hypothesize that the if you live in a low-income or more diverse town, you are more likely to be exposed.

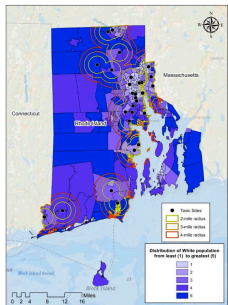


Figure 1: Geographic distribution of 30 randomly chosen Superfund sites⁴

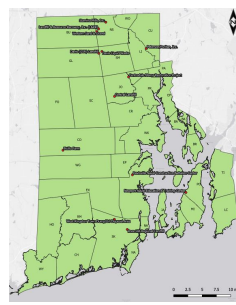


Figure 2: Map of RI with each of NPL site plotted and labeled⁵

Methods

Demographic data was obtained the Rhode Island Division of Statewide Planning, which broke down the racial composition of each town and city in the state³. Percentage of non-white residents was calculated for each town. Median family income data from 2021, was taken from the Rhode Island Department of Labor & Training, and to evaluate exposure to waste sites and environmental burden, a list comprised of each active and inactive waste management facility in the state was obtained from the Rhode Island Department of Environmental Management^{2,1}.

Results

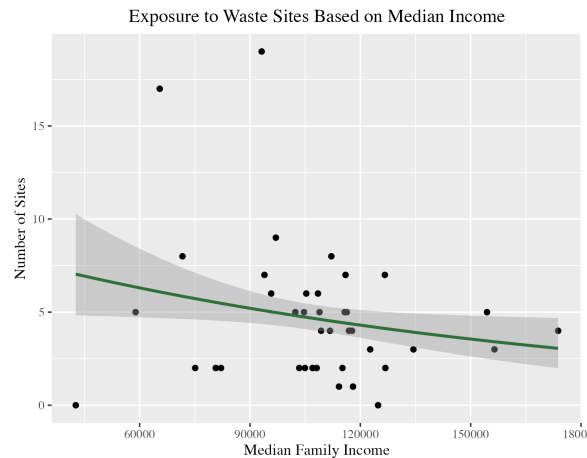


Figure 3: Amount of active and inactive waste sites in a town based on its median family income

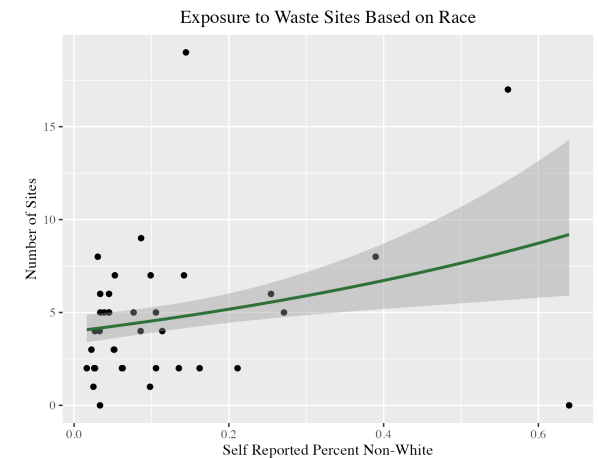


Figure 4: Amount of active and inactive waste sites in a town based on the percentage of the population that is non-white

There is a statistically significant correlation between having a lower median income and a higher amount of waste sites in a town (ANOVA, $X^2 = 4.7129$, $DF = 1$, $p\text{-value} < .05$, 95% CI). There is also a strongly statistically significant correlation between the “non-whiteness” of a town and the amount of waste sites located there (ANOVA, $X^2 = 8.0064$, $DF = 1$, $p\text{-value} < .01$, 95% CI).

Conclusion

Waste site distribution is correlated with both median family income and racial composition in Rhode Island municipalities. These findings suggest that environmental burdens in the state are not evenly distributed and disproportionately impact low-income and non-white communities, aligning with broader patterns of environmental racism documented across the United States. It should also be noted that the relationship between site quantity and race is more significant, communicating the role race plays in these disparities.

Acknowledgements

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References

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- (5) Destefano, Matthew. “Inquiry Regarding Superfund Site Information,” February 14, 2025.