The Inequitable Placement of Hazardous Waste Facilities: How Underserved Communities are Disproportionately Impacted

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Hazardous waste facilities in New Jersey have raised significant concerns about the short and long-term consequences for local communities. In 2020, the New Jersey Department of Environmental Protection (NJDEP) revealed that New Jersey generated almost 9.5 million tons of municipal solid waste (MSW), with just 39% of MSW being recycled, while the remainder was disposed of in landfills (Department of Environmental Protection, 2023). Hazardous waste sites are typically constructed in overburdened communities that lack an effective local government to take action against these sites. Such facilities accept and handle hazardous waste through treatment, storage, or disposal methods (USDEP, 2023). This paper aims to provide a comprehensive overview of the existing research on hazardous waste sites, particularly the socioeconomic and racial disparities in the communities where the facilities are located, as well as the negative effects on the residents of these communities.

Defining Hazardous Waste

Hazardous waste facilities accept and handle hazardous waste through processing, storage, and disposal methods (USEPA, 2023). Incinerators, landfills, and containers are essential infrastructures for waste management and are each efficient in disposing and storing waste. As of April 2023, New Jersey hosts the highest number of hazardous waste sites within its borders, totaling 115 locations (Alves, 2023). Hazardous waste is simply defined as waste that has qualities that make it unsafe or capable of harming human health or the environment (USEPA, 2023). This type of waste is produced from several sources ranging from industrial waste to batteries (USEPA, 2023). To understand the consequences of hazardous waste facilities, it is crucial to outline the types of hazardous waste as they all have different properties.

There are four classifications of hazardous waste: (1) listed waste, (2) characteristic waste, (3) universal waste and (5) mixed waste (EHS Laboratories, n.d.). Listed waste is categorized into subgroups, each listing chemicals commonly found in paints and organic compounds. Characteristic waste is categorized based on which characteristics it displays. This includes (1) ignitability, (2) corrosivity, (3) reactivity and (4) toxicity (EHS Laboratories, n.d.).

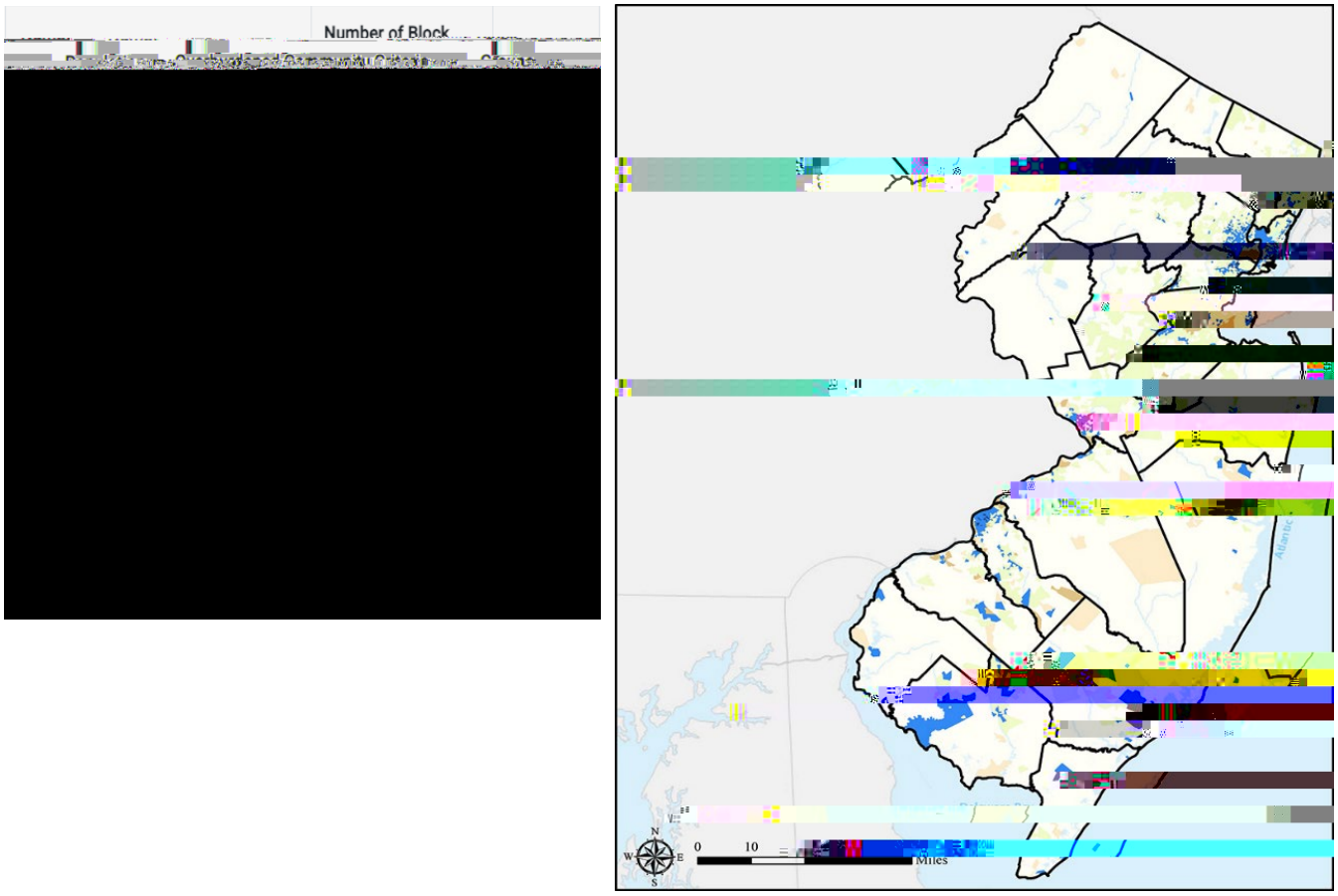

Figure A: Map of OBCs in New Jersey. Data from the 5 Year American Community Survey (2017 to 2021).
Source: NJDEP

The primary aim of this law is to address the disproportionate placement of waste facilities and mitigate the toxic health risks on communities of color and of low SES. The EJ law grants the DEP increased authority over approving permits for facilities, as well as establishing conditions that will allow for facilities to stay in compliance with environmental laws and minimize the impact of harmful pollutants. It requires facilities applying for permits to submit an environmental justice impact statement (EJIS) (Rauer, n.d.). The EJIS evaluates the potential and present environmental and public health stressors in connection with the proposed area and facility. The NJDEP will then assess the EJIS and determine whether the facility would create disproportionate environmental and public health stressors within the community where

the facility is located (Rauer, n.d.). While it is too early to say whether the new law has had a beneficial effect, it is surely a step in the right direction towards environmental equality.

Conclusion

The placement of hazardous waste sites across the United States has disproportionately affected minority and low-income communities for several decades. The majority of these facilities have been deliberately constructed in communities that lack an effective local government, allowing them to operate with little to no impunity for the damage caused to the local communities. Concerns about the implications of these facilities have been raised by those subjected to unfavorable conditions. However, legislators and lawmakers have not been able to effectively address these issues for several decades. Although plenty of research has focused on the adverse effects of hazardous waste facilities on human health, little is known about the socioeconomic effects and the future of such communities. The lack of knowledge concerning the socioeconomic consequences is a major deficiency in the movement towards environmental justice. Understanding how hazardous waste sites affect impacted communities' social and economic prospects will strengthen environmental legislation and optimize its outcomes. Although the New Jersey Environmental Law prevents facilities from being placed in overburdened communities, there is a lack of legislation that aims to mitigate the consequences of hazardous waste disposal in nearby communities. Several research gaps must be closed to effectively manage the implications of hazardous waste sites and to protect vulnerable communities that are subject to such dangerous conditions. A clear strategy acknowledging the adverse effects of hazardous waste facilities must be implemented to achieve environmental justice among afflicted minority communities.

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