

Percent Minority Population



Determining the Effected Populations of Environmental Racism

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Percent Population Below Poverty Line



Objective: This project used GIS to study the presence and effected populations of environmental racism in Monmouth County, NJ.

Abstract

Four populations were selected for this study: individuals who are a minority, below the poverty line, unemployed, or without traditional education. Their location was analyzed with respect to landfills, hazardous waste sites, known contaminated sites, and industrial areas to ascertain if there was a correlation between high concentration and proximity. Minorities and people with an income below the poverty line were found in the closest proximities to the environmental hazards, while populations with no traditional education or unemployment did not show a specific trend. Therefore, minorities and impoverished people are the most affected by environmental racism in Monmouth County.

- Hazardous waste sites
- Landfills
- Industry
- Known Contaminated Sites

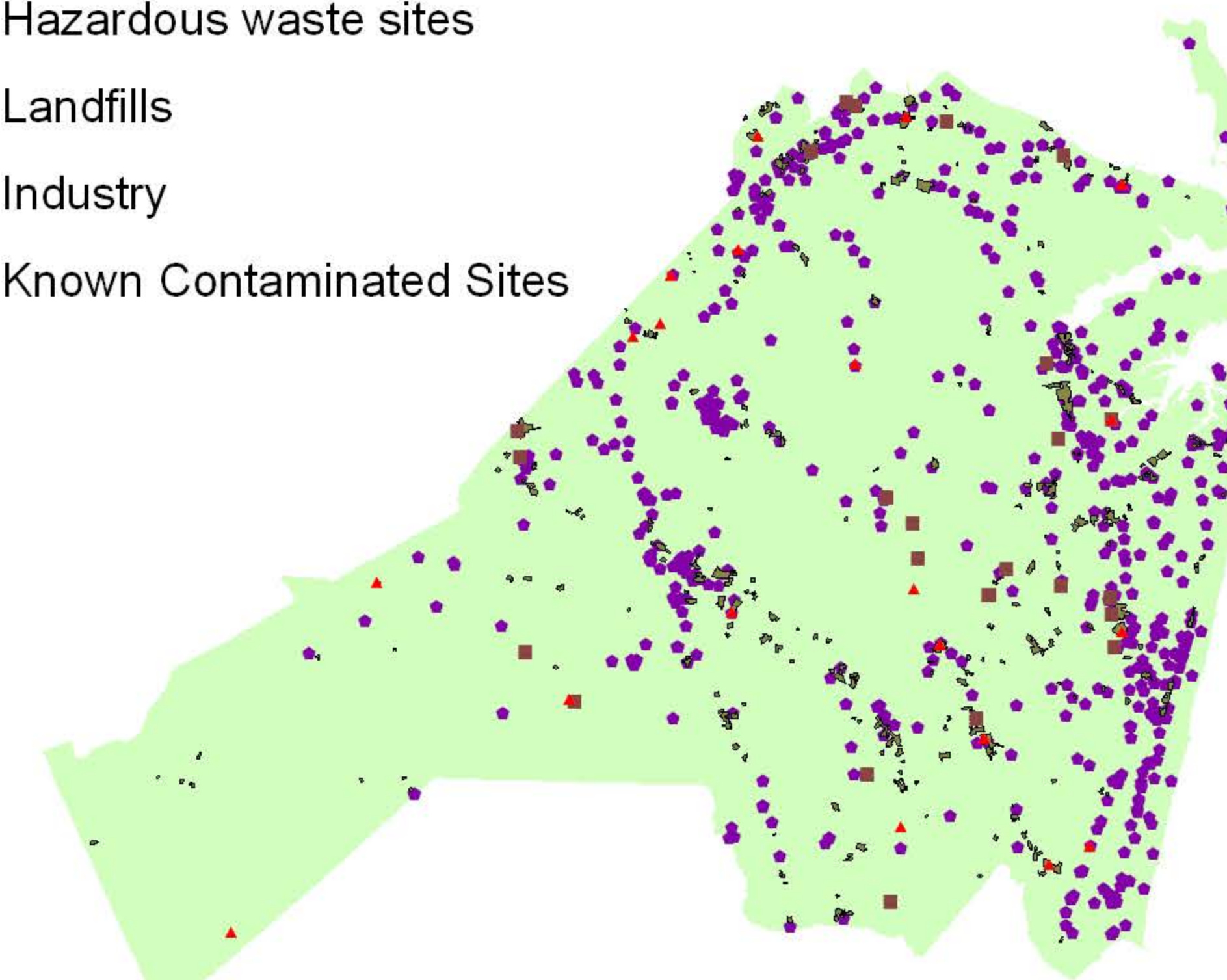


Fig 2. The environmental hazards of interest.

Introduction

Environmental Racism is the disproportionate placement of environmental hazards in communities of disadvantaged populations. These populations are usually targeted due to their lack of political clout or resources to fight these invasions. The results are devastating to the communities: low property values, high occurrence of health problems, and unpleasant living conditions. Minorities have typically been the most associated with this phenomenon, but activists have begun to question its breadth: how many peoples are affected? Populations that may not possess the resources to avoid environmental hazards include: individuals who are minorities, below the poverty line, unemployed, or have not received an education. The concentration of these populations around environmental hazards (landfills, hazardous waste sites, known contaminated sites, and industry land use) was studied to determine if environmental racism does exist in Monmouth County, NJ and which populations it affects.

Fig 3. Percent population below the poverty line and their distribution among the five zones of each hazard.

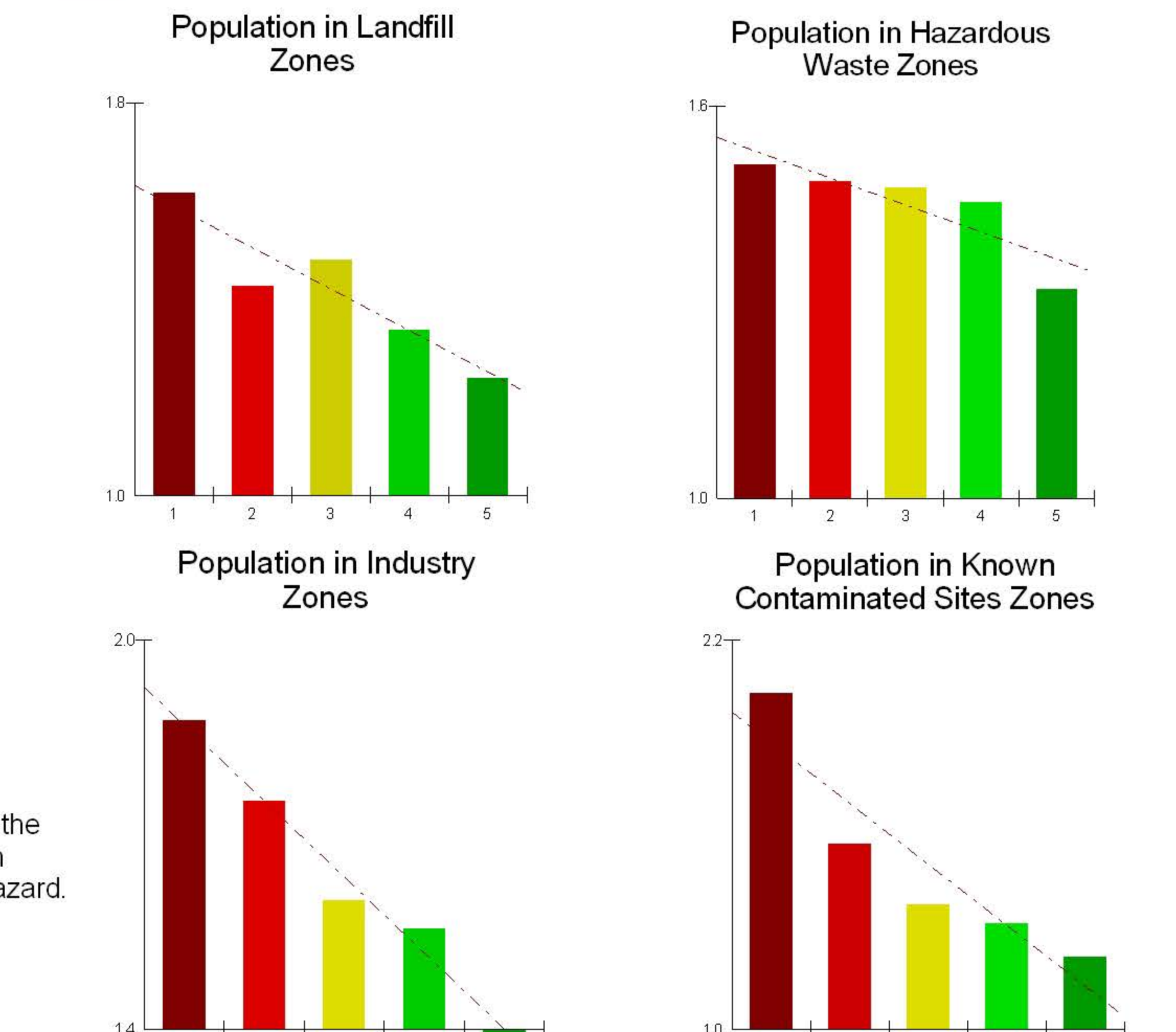
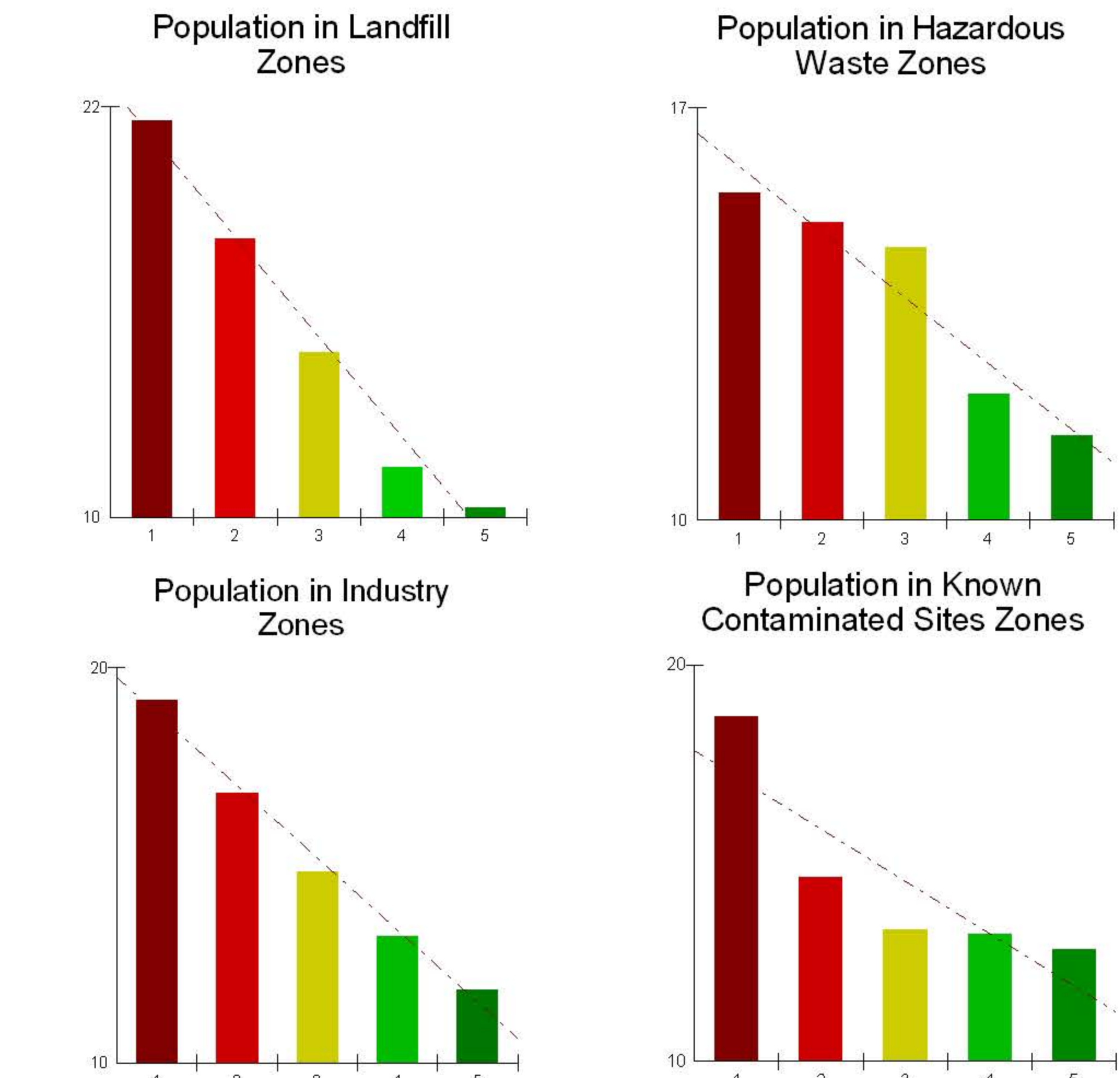


Fig 1. Percent minority population and their distribution among the five zones at each hazard.

Percent Population Unemployed

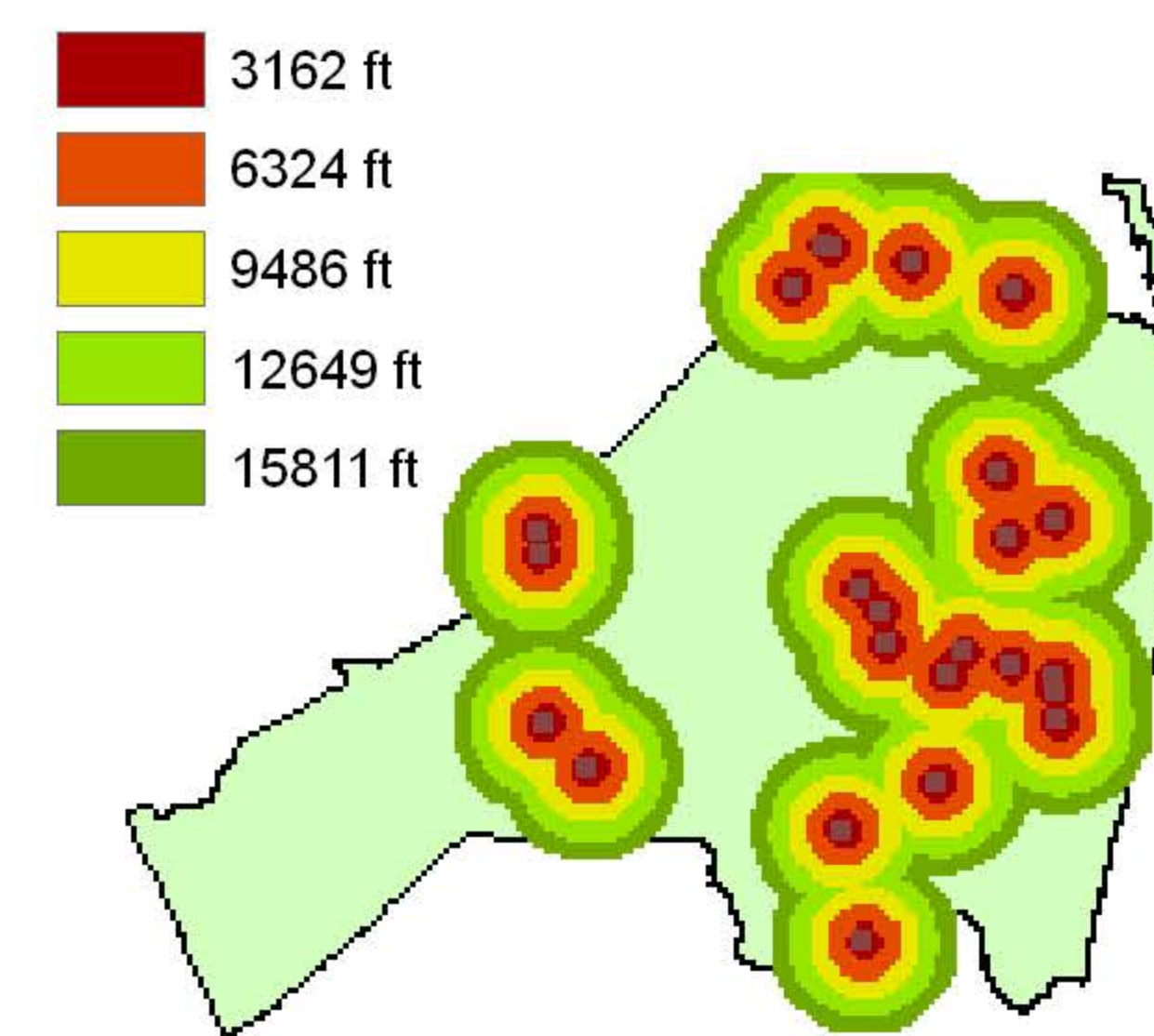


Fig 4. Five zones surrounding the landfills.

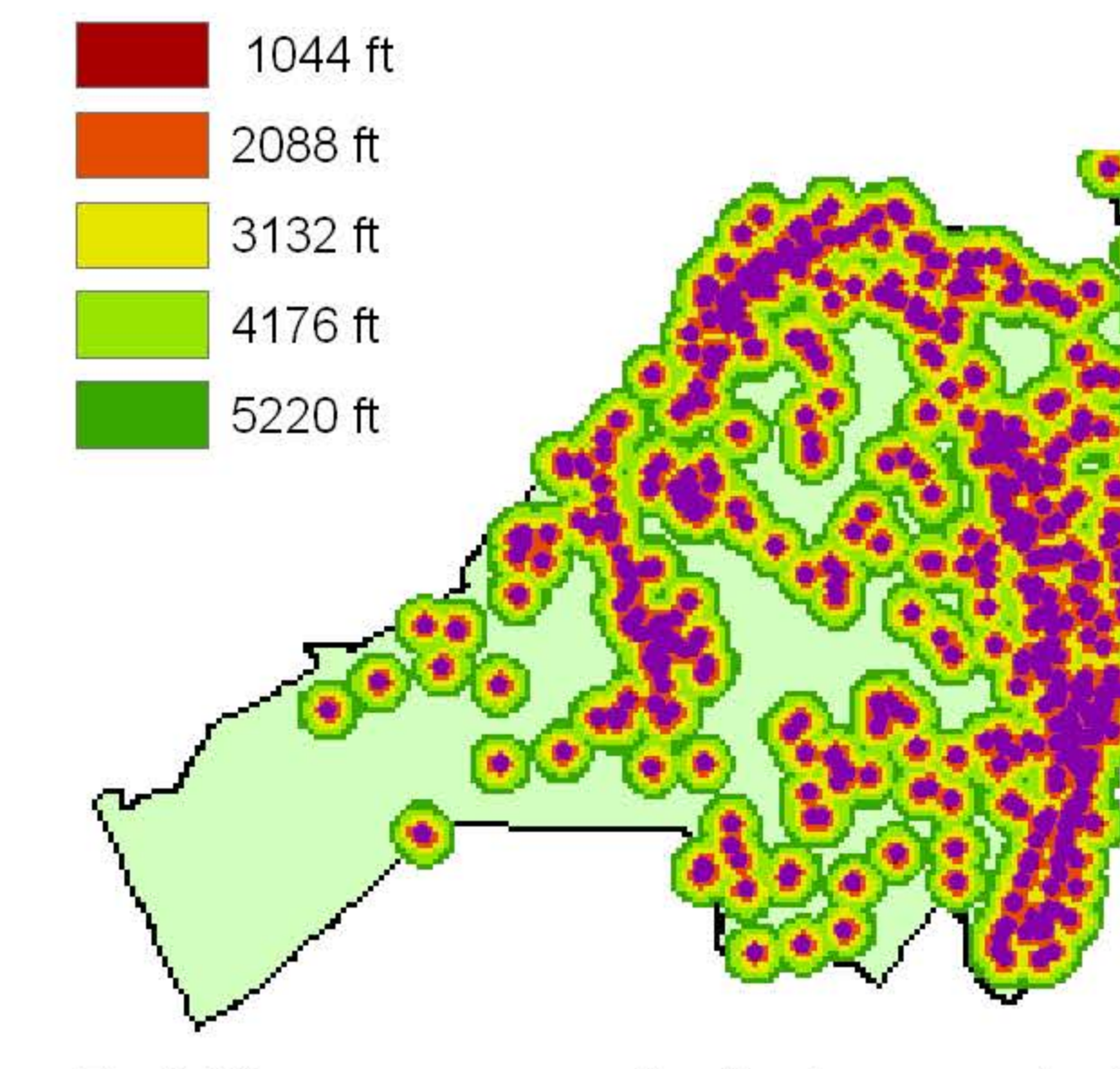


Fig 5. Five zones surrounding the known contaminated sites.

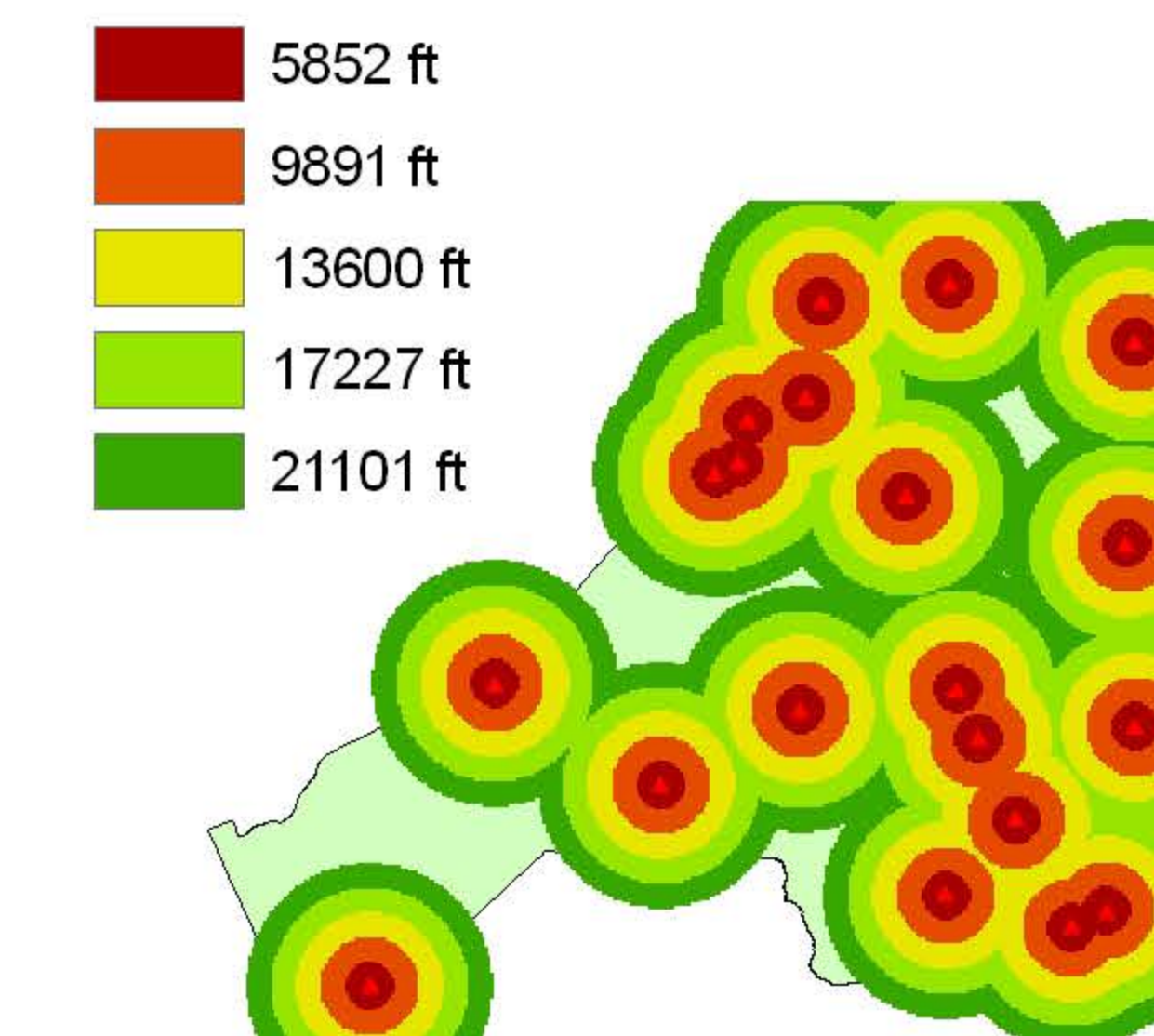


Fig 6. Five zones surrounding the hazardous waste sites.

Percent Population without Traditional Education



Methodology

The NJ census data from the year 2000 was used to locate the populations of interest across Monmouth County. This data was expressed as a percentage of the total population that is either unemployed, a minority, below the poverty line, or without a traditional education. An acceptable distance from each environmental hazard was determined and five zones ranging directly from the hazard to that distance were plotted: the first zone being unacceptable and the fifth being acceptable. The percentage of the aforementioned populations in each zone was compared to each environmental hazard, to determine if the closest zone contained the highest concentration.

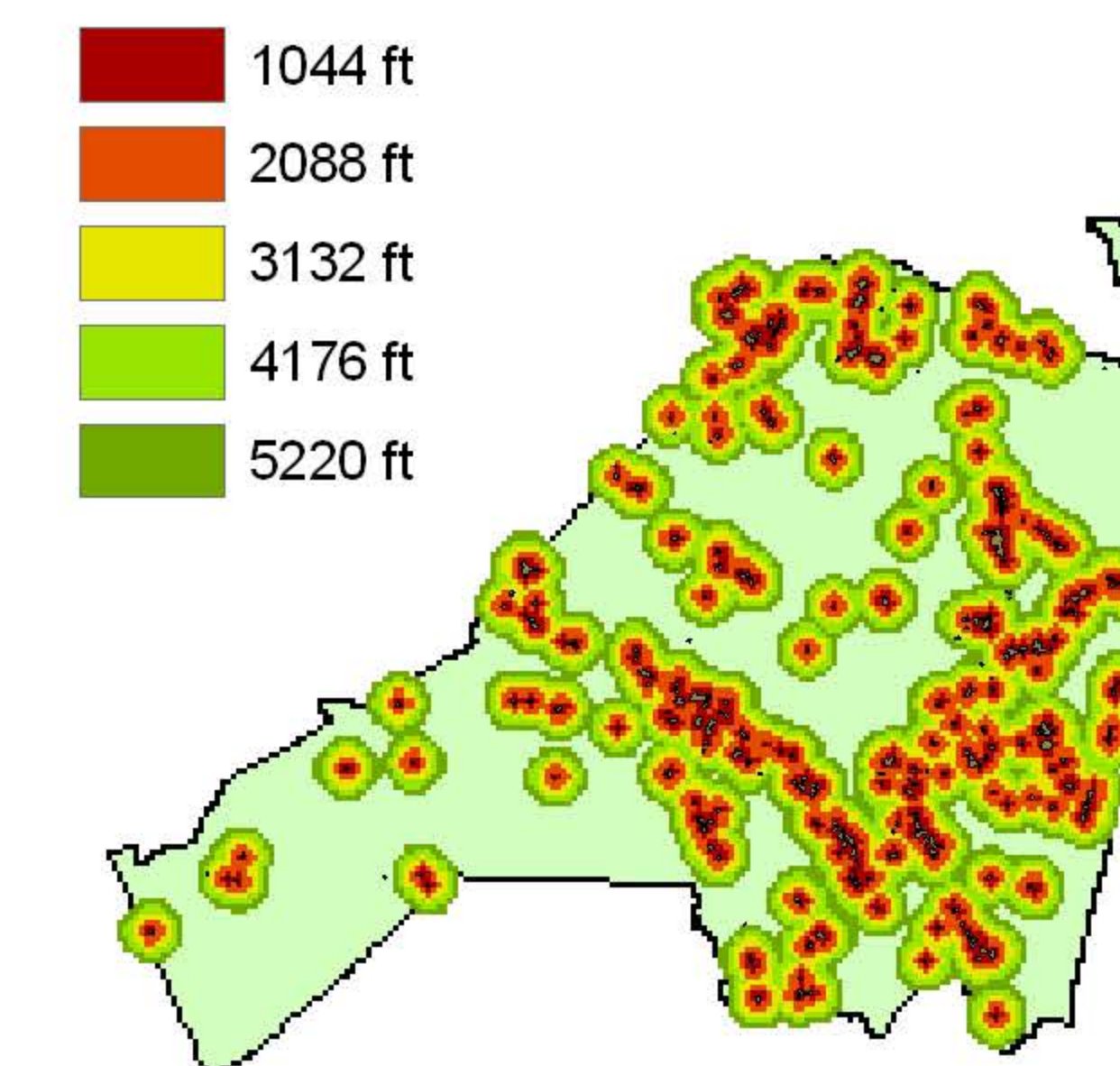


Fig 8. Five zones surrounding industry land use.

Conclusion

Minorities and people considered below the poverty line were found in the closest proximities to the environmental hazards, while populations with no traditional education or unemployment did not show a specific trend. Therefore, minorities and impoverished people are the most affected by environmental racism in Monmouth County. Landfills, industrial land use, and known contaminated sites showed the clearest bias, while hazardous waste sites did not. This could be due to the propensity to dispose of hazardous waste in areas with little population in general. Known contaminated sites, however, are more often places such as gas stations, dry cleaners, or Laundromats that may not follow environmental regulations if placed in an area with little supervision. Industry and landfills are both unwanted but needed and therefore placed where there will be less resistance. Currently, environmental racism is considered more of a civil rights issue than an environmental issue—when, in fact, it's both.

Fig 9. Percent population without traditional education and their distribution among the five zones of each hazard.

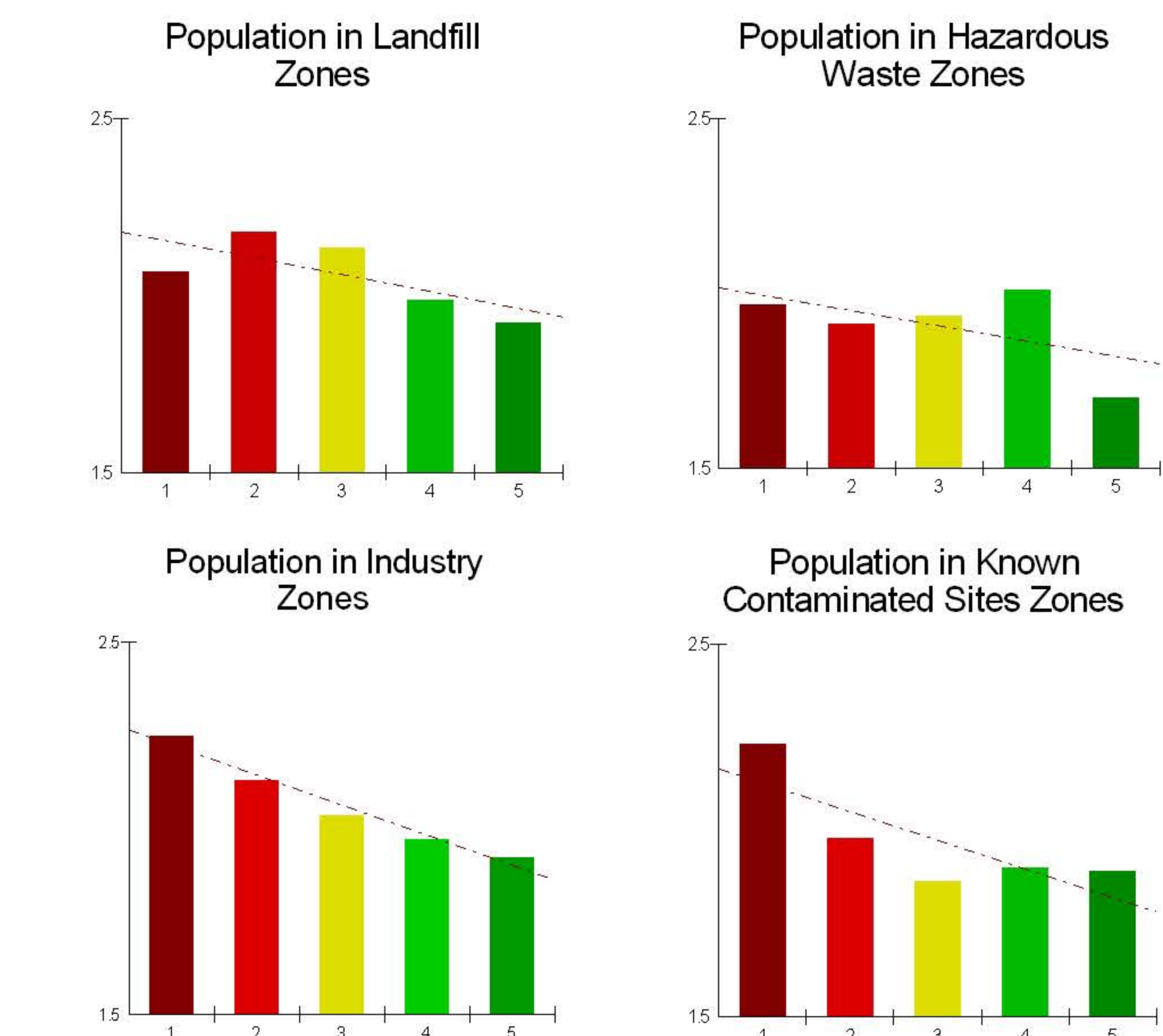


Fig 7. Percent unemployed population and their distribution among the five zones of each hazard.

