

## **Solid Waste, Environmental Injustice, and Public Health in North Carolina**

Summary of testimony for the NC Joint Select Committee on Environmental Justice, October 23, 2006. Steve Wing, Department of Epidemiology, School of Public Health, UNC-CH

**Background:** Solid waste management has long been a public health concern. Although recently constructed municipal solid waste landfills are required to have plastic liners and systems to collect methane gas, landfills remain a potential source of groundwater contaminants and air pollutants. Malodors, noise and garbage truck traffic also present health concerns. This research looked at the locations of landfills and other solid waste facilities in North Carolina to find out whether people of color and poor communities have more than other communities. No previous study had addressed this issue. Evidence of such a disproportionate burden would reinforce concerns about environmental injustice in the North Carolina.

**What was done:** Researchers obtained information on solid waste facilities that were issued a permit to operate by the North Carolina Division of Waste Management on or before December 31, 2003. Included in this study were: municipal solid waste landfills, construction and demolition landfills, waste transfer stations, industrial solid waste landfills, and tire landfills.

Data on the racial and economic characteristics of North Carolina communities (census block groups) came from the United States Census Bureau. Population density (the number of persons per square mile) was also considered because landfills are placed in rural areas with lower population density, and rural areas are often poorer.

Records for all solid waste facilities present in 2003 were examined to determine whether they are disproportionately located in people of color and poor communities. These analyses, however, could not determine whether people of color and poor communities are more often selected for landfills, or whether the race and wealth of communities changed after the facilities were built. Therefore additional analyses were conducted of the facilities that received permits between 1990 and 2003 to determine the race and wealth of the communities *before* the facilities were permitted. Wealth was measured by the average value of homes.

**What was found:** By the end of 2003, 419 solid waste facilities had been issued permits to operate. Almost half of these (201) were municipal solid waste landfills. Adjusting for population density, the odds of a solid waste facility were:

- 2.1 times higher in communities with more than 10% people of color compared to communities with less than 10% people of color; and
- 1.4 times higher in communities with average house values less than \$100,000 compared to area with average values \$100,000 and greater.

Between 1990 and 2003, permits were issued for 207 new solid waste facilities. Among communities that did not previously have a facility, new facilities were permitted:

- 2.2 times more often in communities with more than 10% people of color compared to communities with less than 10% people of color; and

- 0.6 times as often in communities with average house values less than \$100,000 compared to communities with average house of values \$100,000 and greater.

Solid waste facilities may be public or privately owned. Since 1990, excesses in poorer and people of color communities were observed primarily for privately owned facilities. Between 1990 and 2003, privately owned or operated solid waste facility were permitted:

- 2.4 times more often in communities with more than 10% people of color compared to communities with less than 10% people of color; and
- 0.9 times as often in communities with average house values less than \$100,000 compared to communities with average house of values \$100,000 and greater.

**Conclusions:** This is first state-wide study of race, economics, and solid waste facilities in North Carolina. Results show that communities of color and poorer communities have a disproportionate share of solid waste. Since 1990, facilities were disproportionately placed in communities that had more people of color at the time the permits were issued, especially for facilities owned and operated by private companies. Since 1990 there was no excess of facilities permitted in areas with lower house values.

Solid waste is a public health issue. Waste generated every day must be disposed of somewhere. Communities that host solid waste facilities face concerns about their health and well being because of truck traffic, odor, noise, air and water pollution. Waste sites may attract other waste facilities, affect property values, and make communities less desirable locations for resources such as schools, medical facilities and clean industry. Urban areas and wealthy people who are disproportionately white consume more and create more waste. They tend to avoid impacts of waste disposal in their communities when waste goes disproportionately to low income communities of color.

People of color and poor communities may be especially vulnerable to the impacts of solid waste facilities because they have fewer community resources, and people in these communities already have more health problems.

Attention to environmental injustice could help motivate development of strategies to reduce the unfair share of waste sites borne by people of color and poor communities in North Carolina. White, wealthier communities would be more motivated to support waste reduction, reuse and recycling if they had to take care of more of their own waste.

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