



RESEARCH ARTICLE

Coverage of National Priority List sites by the print media during the implementation of Superfund: the role of race and income

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(Received 1 November 2020; revised 24 August 2021; accepted 25 August 2021; first published online 22 September 2021)

Abstract

We review 1982–1984 articles identifying Superfund sites in three national newspapers. Articles almost never identify the race of nearby residents. Based on sites receiving disproportionate coverage, readers might conclude that Superfund generally affected white, working-class families, but results do not support this narrative. In a pooled sample, neither race nor income predicts the number of times a site gets mentioned. When the sample is partitioned by newspaper or by each newspaper's coverage of nearby sites, a positive relationship emerges between the proportion of Hispanic or nonwhite residents and the number of articles about a site. We discuss this apparent contradiction.

Keywords: environmental justice; media; newspaper; race; Superfund

JEL Codes: Q53; Q56; Q58; J15

Introduction

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 authorized the establishment of a “Superfund” and allowed the Environmental Protection Agency (EPA) to use that fund to clean up the nation's most polluted sites. Since 1980, the EPA has identified over 45,000 sites for Superfund remedial site assessment. Of these, approximately 1,700 sites were added to the National Priorities List (NPL), a list of sites that are eligible for long-term remedial action financed under the Superfund program. This work studies print media activity in response to NPL designation during the initial implementation of the Superfund program. We ask if media attention correlates to the socio-economic characteristics of the census tract containing a Superfund site.

Our work contributes to a literature that identifies factors that affect the frequency and nature of newspaper coverage. Across a range of issues, this literature finds that race matters. Furthermore, newspapers have often ignored the linkages between race, income, and the impacts of pollution. Our focus on Superfund NPL listings allows us to observe both

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the decision about whether to report on a site and the decision about what information to include in that coverage. In examining these joint decisions, we uncover a puzzling result. While we confirm that in our sample both the issue of environmental justice and the race of nearby residents were largely ignored, this does not mean that newspapers failed to cover NPL sites in less affluent or diverse communities. On the contrary, sites in such communities were *more* likely to receive attention from the newspapers in their region.

The link between race and media attention has been established in several different contexts. Numerous studies show that the nature of crime reporting differs with respect to the race of victims and suspected perpetrators; newspapers are less likely to report on minority victims and more likely to depict or identify the race of minority suspects (e.g., Dorfman and Schiraldi 2001; Feldman *et al.* 2017; Colburn and Melander 2018). Media coverage of protests about racial issues is more likely to be presented in a delegitimizing way than that of protests related to issues like health or the environment (Kilgo and Harlow 2019). Newspaper opinion pieces about poverty typically argue that the poor are deserving of societal support, except in instances where the poor are identified by race; African Americans are more likely to be blamed for their poverty (El-Burki, Porpora, and Reynolds 2016).

Coverage of environmental issues is also correlated to the race of victims. Most often, newspaper articles omit discussion of race or income disparities entirely. Heinz (2005) searches three major newspapers for terms like “environmental justice” or “environmental racism” and finds only 40 articles in an 11-year span. Saha and Mohr (2013) also find few explicit mentions of race in a search of articles about the toxic releases. When race is mentioned, newspapers frame environmental stories differently depending on where the newspaper is located (Bendix and Liebler 1999), whether the newspaper serves a diverse community (Griffin and Dunwoody 1997) and whether an event affects a minority community (Swain 2009; Moore and Lanthorn 2017). For example, Davis Kempton (2020) shows that newspaper articles about Hurricane Maria, which affected Puerto Rico, were less likely to have a human interest framing than articles about Hurricane Harvey, which impacted Houston, Texas.

A newspaper’s decision to cover a site can affect residents, for example through housing prices. Gayer, Hamilton, and Viscusi (2000) find that publicity (measured by total words printed) about NPL sites lowers housing prices; in contrast, Gayer and Viscusi (2002) find that publication of newspaper articles results in a modest increase in housing prices, which the authors attribute to the possibility that articles reduce the perception of risk or increase the perceived likelihood of remediation. Community involvement in NPL site cleanup, which may be correlated to media attention, reduces cleanup duration and affects the likelihood that regulators use health protective forms of remediation, like source treatment in addition to containment (Petrie 2006; Daley 2007; Burda and Harding 2014).

Understanding the link between newspaper coverage, race, and income is important also because our study period coincides with the defining event that gave rise to the environmental justice movement: a series of protests in predominantly African American Afton, NC, which housed a waste-management facility. In 1982, the transport of Superfund wastes to the facility sparked the protests that generated national media attention and raised awareness about the environmental risks faced by minority populations (Bullard 1994; McGurty 2000; Abel 2008).¹ A subsequent and well-publicized

¹Because the Warren County facility was not an NPL site, most articles covering the protests are not included in our statistical analysis.

investigation by the General Accounting Office found a skewed distribution of minority populations around four landfills that received Superfund wastes (GAO 1983).² Given this background, the period of our study is one where the implementation of a new law (CERCLA) generated a series of newsworthy actions (the designation of NPL sites), where coverage had the potential to be influenced by a novel interest in environmental justice. It is a unique period to study how the decisions over which sites to cover and how to frame that coverage intersected with the socioeconomic characteristics of neighborhoods near NPL sites.

To examine how the characteristics of an NPL site's census tract correlate to the intensity of media coverage, we analyze newspaper articles appearing in the *Washington Post*, *New York Times*, and *Boston Globe* between January 1, 1982 and December 31, 1984. This period captures the first wave of sites that were added to the NPL or were being investigated for inclusion. Our analysis sample contains 411, 129, and 212 sites added, respectively, in 1982, 1983, and 1984. We also include 63 sites added in 1985 and 43 sites added in 1986.³ Prior research has shown that newspapers were most likely to write about Superfund sites when they entered the NPL (Dunwoody and Griffin 1993).

We identify all articles published during the 1982–1984 period that include the word “Superfund” and refer to, by name or description, at least one site that the EPA added to the NPL prior to January 1, 1987. We further differentiate articles that quote residents or community leaders, or discuss details about the neighborhood, specific environmental and health risks, or the pollutants found at a site. We use both a qualitative review of prominently covered sites and an empirical analysis of all newspaper stories covering NPL sites to explore the role that the print media played in linking Superfund sites to the racial and economic characteristics of nearby neighborhoods. Our qualitative work describes the five sites most frequently mentioned in our sample and discusses how these sites were portrayed. The empirical analysis identifies the degree to which characteristics like the proportion of nonwhite or Hispanic residents and median income relate to the number of articles published about a polluted site, controlling for the site's Hazard Ranking System (HRS) score and geographic characteristics.

Print media coverage of Superfund sites

To better understand how the print media shaped perceptions of Superfund with respect to race and socioeconomic status, we catalog and carefully review all articles from the *Washington Post*, *New York Times*, and *Boston Globe* that discuss specific NPL sites. The availability of data constrains us to focus on just these few newspapers, which represent some of the most prominent and influential newspapers of the time.

²The literature linking environmental justice to Superfund is extensive (see Banzhaf, Ma, and Timmins 2019 or Burda and Harding 2014). Among studies that focus on the initial years of the program, Hird (1993) shows that counties that contain Superfund sites are, on average, wealthier, more highly educated, and have a higher percentage of nonwhite residents. Anderton, Oakes, and Egan (1997) show that communities with a higher percentage of Black residents are less likely to receive an NPL designation and that community characteristics like voter participation, median income, and race affect the duration of cleanup for NPL sites.

³After investigation, the EPA proposes a site for inclusion in the NPL and finalizes the designation several months thereafter. We use the proposed date in this study. Our study period is 1982–1984. Since newspapers may have reported on sites under investigation, we limit the sample to sites proposed prior to 1987 and test whether results are robust to this choice of year (see Table 6).

Our methodology precludes an automated text analysis, so each article needed to be read and manually coded by one of the authors or a research assistant. To ensure consistency in coding, each article is reviewed by at least two readers. Given this limitation, we choose to focus only on national newspapers that are indexed in either the *Nexis Uni* (formerly *LexisNexis Academic*) or *ProQuest's Newsstream* database so that they can easily be searched through keywords. Beside the three newspapers we review, only *The Wall Street Journal* is available in these databases during our time period.⁴

A *Nexis Uni* query reveals that, during the 1982–1984 period, the *Washington Post* and the *New York Times*, respectively, published 333 and 272 articles containing the word “Superfund.” A similar *ProQuest* query identifies 294 articles from the *Boston Globe*. Only some of these articles mention, with enough detail for identification, one or more sites that were added to the NPL before January 1, 1987. We exclude one article in the *Washington Post*, five articles in the *New York Times*, and three articles in the *Boston Globe* that present long lists of sites (more than 20). Articles with more than 20 sites sometimes listed either all existing or newly added NPL sites in nearby states. Three articles included an inventory of the sites in New York or Maryland state-level programs that were designed to provide additional funding and mirror the federal Superfund program. We exclude articles where none of the identified sites were ever added to the NPL. Sites not added to the NPL include sites not sufficiently hazardous to merit NPL designation, sites owned by the Federal Government that were exempt from consideration for the NPL, facilities that process Superfund waste, sites remediated exclusively under state programs, and sites remediated under the Resource Conservation and Recovery Act, a statute that governed remediation at sites still in use. Our final list consists of 111 articles from the *Washington Post*, 117 articles from the *New York Times*, and 187 articles from the *Boston Globe*.⁵

Discussion of individual sites varies considerably, ranging from carefully researched stories about how a Superfund site affects a community to a passing reference to Love Canal. As we will discuss in more detail, five sites receive a disproportionate share of media attention: 201 articles mention at least one these five sites. For each of the 415 articles in the data, we note the following characteristics: mention of specific health or environmental impacts or risks, reference to specific pollutants or chemicals, identification of any neighborhood characteristics, a direct quote from an affected resident, activist or community leader, or an exclusive focus on the political process.

Table 1 presents summary statistics, by newspaper, describing the number of articles published and the information included. Articles mentioning environmental or health risks typically discuss contamination (or the possibility thereof) of groundwater, streams, or drinking water. Less commonly, the articles mention health risks like cancer or birth defects. Descriptions of pollutants range from specific chemical names like “toluene” or “benzene,” to general terms for classes of persistent chemicals like “dioxin” or “PCB.”

⁴Newspapers like the *Los Angeles Times*, *Chicago Tribune*, and *Philadelphia Enquirer* are indexed in *Nexis Uni* or *ProQuest Newsstream* from the mid 1980s. These newspapers are also available through microfiche or *ProQuest's Historical Newspaper* database, which provides article images in searchable PDF format, but compiling and reviewing articles from these sources would be more difficult and labor-intensive.

⁵Most *Washington Post* and *New York Times* articles from our search (based on the term Superfund) do not mention a specific site. Both newspapers ran numerous stories about the administration of Superfund, congressional oversight, and the debate over renewing CERCLA. Of the 333 *Washington Post* articles, only 117 identify any polluted site. Of these, 111 are in the analysis sample.

Table 1. Article characteristics

	<i>Washington Post</i>	<i>New York Times</i>	<i>Boston Globe</i>	Total
Total articles	111	117	187	415
With any details	73	74	135	282
With neighborhood characteristics or quote	42	41	67	150
Purely political	32	32	49	113
Mentions at least one of the sites in Table 2	83	57	61	201
With multiple NPL sites mentioned	44	50	60	154
Average no. of NPL sites mentioned per article	1.9	2.0	2.1	2.0

Note: "Any details" means the article mentioned environmental risks, health risks, a direct quote from an affected individual, or a description of the neighborhood or residents. "Purely political" means the article focused either on charges of political favoritism and the related congressional hearings or on the renewal of Superfund legislation, and the article also does not meet the definition of "any details."

We designate an article as describing neighborhood characteristics if it includes any description of the local community. Such descriptions most commonly mentioned residences, schools, athletic fields, or potential for children to be exposed. Fewer articles designated as describing neighborhood characteristics would allude to economic conditions or class. Such references would typically characterize the neighborhood as either the working class or even impoverished. This was often through descriptions of housing (e.g., "frame houses," "mobile homes," "grimy neighborhood") or by emphasizing the employment of residents (e.g., "blue collar," "farming community"). Although relatively uncommon, a few newspaper articles would instead emphasize relative affluence ("upper-middle class," "flourishing community," "high-tech suburb," "weekend haven"). Only three articles in our sample have any explicit mention of race or ethnic background. A *Washington Post* article mentioned a Superfund site in conjunction with its coverage of the protests in Afton, North Carolina, a *Boston Globe* article identified a Times Beach resident's "Cherokee Indian background", and another *Washington Post* article described a community in Hamilton, Ohio, as the descendants of "Appalachian migrants."

A total of 113 articles are identified as having an exclusive focus on the political process. This focus exists because the administration of Superfund, and the actions of Anne Gorsuch Burford, Director of the EPA, and Rita Lavelle, the administrator of the Superfund program within that agency, were at the center of a political scandal in 1983.⁶ The scandal centered on charges that the Reagan Administration misused and manipulated the Superfund program for political purposes. Several Superfund sites, most notably the Stringfellow Acid Pits, Seymour Recycling, and the Chem-Dyne plant in Ohio, were frequently mentioned in the print media within the context of the scandal, the Congressional hearings, and the legal actions that followed. Other

⁶Both Ms. Gorsuch Burford and Ms. Lavelle resigned their positions during the time period of our study. Ms. Lavelle was indicted on federal perjury charges and convicted of lying to Congress.

articles focused on legislative proposals to renew Superfund. These articles sometimes mentioned Love Canal or Times Beach in their introductions in order to place the Superfund program within a concrete context.

If an article focuses on investigations into the administration of Superfund, the related congressional hearings, or the renewal of Superfund legislation, and the article does not contain any of the other specific references from [Table 1](#) (e.g., environmental or health risks, specific chemicals, quotations, or neighborhood characteristics), then we designate that article as having an exclusive focus on the political process. Our empirical strategy will describe a hypothesized two-stage process where, in the first stage, geography and hazard score determine whether a site is potentially newsworthy. Since political scandal provides a reason, outside of this conceptual framework, to mention a site that is unrelated to site characteristics, we exclude “purely political” articles in our specifications. We do not label articles covering the 1984 election as “purely political,” since discussion of sites in this context was generally linked to specific environmental and health risks.

After linking newspaper articles to NPL sites, we use EPA and U.S. Census Bureau data to generate site characteristics. The EPA website allows for the download of information on all proposed, active, and deleted NPL sites, including latitude and longitude, dates of key activities, and HRS score. Important dates include the date a site was formally proposed to the NPL, a “construction complete” date, when active remediation activities and infrastructure is completed, and a “deleted” date when the site is considered fully remediated and removed from the NPL. For most NPL sites, EPA data include a HRS score, ranging from 0 to 100, which determines the eligibility of a site for the NPL. For sites added during the early 1980s, HRS scores are calculated from a formula that generates, and then aggregates, separate scores for each of three possible pathways: groundwater, surface water, and air. Because this formula accounts for the number of people potentially exposed by pathway, HRS scores are higher for urban sites (U.S. EPA 1993; Hird 1994).

1980 Decennial Census data, at the census tract and county levels, are available for download through the IPUMS NHGIS database (Minnesota Population Center 2016). Census tracts are smaller and more consistently defined than counties and are, therefore, our preferred measure.⁷ For 43 of the 670 census tracts that contain at least one NPL site, census data do not include information on median household income. For these tracts, we use median household income measured at the county level as a proxy for the median income of the tract. Unfortunately, in 1980, not all land areas were assigned to a census tract, which means that a tract-level analysis requires dropping about 100 NPL sites, including 14 NPL sites that received media attention. In an alternate specification of the empirical model, we explore whether including these sites, using information about race and household income at the county level, affects results ([Table 6](#)).

Prominent Superfund sites

This section briefly describes the five Superfund sites that received the most media attention in our sample. We contend that extensive coverage of these sites could have

⁷Tracts are not uniform and, therefore, differ in how well they represent the community close to a site. An alternative would be to consider a weighted average of the characteristics of census tracts within a given radius of an NPL site. This is difficult to implement consistently with 1980 data since not all land areas are mapped to a census tract.

generated a perception of Superfund as predominantly affecting white working-class communities. Given how sites were described and the characteristics of the areas close to the sites, it is conceivable that newspaper readers associated the entire Superfund program with these specific sites, most of which were located in areas that were predominantly white and wealthier than in the full population of Superfund sites.

Table 2 identifies the Superfund sites most frequently cited in the *Washington Post*, *New York Times*, and *Boston Globe* during our sample period. Two of the Superfund sites that received the most widespread (and sympathetic to victims) coverage in the media were Love Canal in Niagara, New York, and Times Beach, Missouri. Two other sites from this same list were frequently mentioned due to charges of political favoritism and the articles were less likely to describe the location of the site or the people affected. The final site, located in Holbrook, Massachusetts, received extensive coverage in the *Boston Globe*.

Stringfellow Acid Pits, Glen Avon, California

The Stringfellow Acid Pits site is located just north of the neighborhood of Glen Avon (in the city of Jurupa Valley), about six miles northwest of Riverside, California. The Stringfellow site served as a hazardous waste disposal facility from 1956 to 1972. The facility contained liquid waste disposal ponds that overflowed and contaminated a nearby creek. Cleanup and mitigation activity began in the 1970s. Nonetheless, by 1978, contaminants from the site had been detectable both in the groundwater and in surface water several miles from the ponds. In 1979, community members in Glen Avon formed a group called, “Concerned Neighbors in Action,” which advocated for comprehensive remediation (Sarathy 2013). The Stringfellow Acid Pits site was added to the NPL in 1983. Early cleanup and mitigation efforts focused on draining and capping the disposal ponds as well as providing an alternate (municipal) water source for nearby residents. To this day, the site remains an active NPL site with the ongoing effort focused on treatment, remediation, and migration control of contaminated groundwater.

More than any other Superfund site, Stringfellow received attention in connection to a political scandal rather than the underlying environmental issue. Therefore, Stringfellow Acid Pits is often mentioned with little or no discussion of the environmental contamination. As shown in Table 2, 69 articles make mention of the Stringfellow Acid Pits by name, but only 15 of those make even passing reference to the geography or pollutants at the site. Of the articles that do report directly on the pollution problems at Stringfellow, reporting generally focuses on the size and possible extent of the groundwater contamination and the threat that such contamination might pose to the water supplies of Riverside and Los Angeles. Although initial action and designation of the site arose from the advocacy of a multiracial community alliance (Sarathy 2013), no articles reported how the pollution that potentially affected private drinking wells of nearly 10,000 nearby residents impacted the community of Glen Avon, which at the time was 28 percent Hispanic, which places it in the upper 5 percent or our sample.

Love Canal, Niagara Falls, New York

The Love Canal site, a neighborhood in Niagara Falls, New York, was the environmental disaster that is credited for the publicity that resulted in the implementation of Superfund. The actual Love Canal was a partially dug canal that Hooker Chemical

Table 2. Most-frequently cited Superfund sites: 1982–1984

Site name	Hazard score	<i>Washington Post</i> articles	<i>New York Times</i> articles	<i>Boston Globe</i> articles	Total citations	Cites: any details	Descriptions of neighborhood or quote	Current status
Stringfellow Acid Pits, CA	61.4	27	23	19	69	15	6	Construction complete
Love Canal, NY	52.2	17	23	18	58	25	14	Deleted
Times Beach, MO	40.1	13	14	18	44	37	14	Deleted
Seymour Recycling Co., IN	58.2	14	10	6	30	9	5	Construction complete
Baird & McGuire Inc., MA	66.4	0	0	27	27	6	5	Construction complete

Note: Hazard scores (HRSS) from the EPA website or scorecard.org. A hazard score above 58.5 indicates a ranking in the top 50 sites for this time period. “Construction complete” means the site remains on final NPL and continues to be monitored, but any necessary physical construction is complete. Deleted sites are those removed from NPL after remediation.

Company used as a chemical waste dump in the 1940s and 1950s. Hooker subsequently capped the 16-acre site with clay and sold the land to the Niagara School Board. An elementary school was built directly over the site, and the surrounding neighborhood, described in numerous newspaper articles as “working” or “middle” class, contained largely single-family homes.

By the late 1970s, the work of investigative journalists in collaboration with local activists had revealed that the neighborhood had abnormally high levels of birth defects as well as illnesses such as epilepsy, migraines, or nephrosis (Geneseo 2015; Newman 2016). Residents complained of chemical fumes and substances in yards and basements. Although both local government officials and Hooker (now Occidental) Chemical were initially unresponsive, residents were eventually able to definitively link the chemical waste dump to groundwater contamination. By 1978, there had been widespread national media coverage of Love Canal. That year, President Carter, for the first time in U.S. history, issued a federal disaster declaration for a health emergency that was caused by a man-made, rather than natural, disaster. In the years that followed, the government relocated over 800 families. Once Congress passed CERCLA, the Love Canal site was added to the NPL.

As comprehensively documented by Blum (2008), one of the largely unreported aspects of the Love Canal narrative is the plight of a sizeable African American population of renters, who lived in a federal housing project just across the street from Love Canal. Blum recounts that, lacking status as homeowners, these African American renters were “marginalized... by both the homeowners and the political elite” and “never achieved a prominent voice in the media” (Blum 2008, p. 63). Although the concerns of the African American renters did get some coverage in the local press, they received scant attention in the national print media. For example, the 1979 ABC News documentary, *The Killing Ground*, which focused extensively on Love Canal, did not feature any of the African American residents.

Relocations out of the Love Canal neighborhood began in 1979. By the mid 1990s, 239 Love Canal homes, as well as the Griffin Manor housing project, had been demolished. Today, the 70-acre area immediately above the original Love Canal is a fenced-off containment facility. Beyond the fence, populated residential neighborhoods remain. A senior citizen center sits on the site that used to house the Griffin Manor housing project. The 1980 Census shows that the tract containing Love Canal was only 57 percent white, while the surrounding county was 93 percent white.

Times Beach, Times Beach, Missouri

Along with Love Canal, the now abandoned town of Times Beach, Missouri, is one of the most infamous toxic waste sites associated with the implementation of the Superfund. The small town, which a 1983 *Washington Post* article describes as “blue collar” (Harris 1983), was contaminated by dioxin-laced waste oil, which was spread on dirt roads and other potentially dusty areas (e.g., a local horse farm) to control dust in the early 1970s. The EPA began to investigate in 1979, but took meaningful action only in 1982.⁸

In December of 1982, while the residents of Times Beach were awaiting the results of soil tests, a massive flood inundated the town. Shortly thereafter, the tests revealed dioxin levels 100 times beyond the “safe” level at that time (Powell 2012). A second major flood

⁸Bill Hedeman, then director of the EPA’s hazardous waste cleanup program, stated that, “We had no authority to do anything until the Superfund law passed in 1980” (Harris 1983).

hit the town in the following May. The combination of flood damage and concerns about dioxin convinced many townspeople to evacuate the town. In 1983, the EPA, using Superfund monies, offered to buy all the town's homes at fair market value. By the mid 1980s, after extended litigation with a few of the remaining residents, Times Beach had been entirely evacuated, and by the early 1990s, the State of Missouri had acquired all the properties of the town. The EPA incinerated the contaminated soil to remediate the site. The land was then converted to the Route 66 State Park. The webpage for the park makes a brief mention of the Times Beach town, describing it as "one of the nation's environmental success stories" (Missouri State Parks 2017). At the tract level, the 1980 Census reveals the local area to be 98.8 percent white. A 2012 *St. Louis Magazine* article commemorating the 30th anniversary of the disaster featured some former residents, four of whom are pictured on the web page; all appear to be white (Powell 2012).

Seymour Recycling, Seymour, Indiana

Seymour Recycling was a processing center for waste chemicals. The 14-acre site on the outskirts of Seymour, Indiana, was surrounded by fields, but in the vicinity of about 100 homes in the Snyder Acres subdivision. By 1980, the site had held approximately 50,000 drums and 98 storage tanks containing a range of toxic chemicals. Many of the drums were punctured, missing lids, rusted, or leaking. Leakage created toxic vapors and soil contamination and runoff entered a small stream (resulting in fish kills) and the nearby White River. In late 1982, the EPA announced a settlement with responsible parties to fund cleanup. That settlement was soon criticized as a grossly underfunded "sweet-heart" deal, sheltering the largest settlers from millions of dollars in liability, but timed to influence the 1982 general election (Kurtz and Peterson 1983; Taylor 1983). Initial remediation involved removing and disposing 12 inches of topsoil. By the mid 1980s, it had become clear that this action would be inadequate. Subsequent actions included connecting the nearby homes to the municipal water supply, installing a groundwater pump and treatment system, and adding a multilayer hazardous waste cap. Today, the 14-acre site is fenced off with barbed wire. The adjoining areas are still used for agriculture. The EPA has dug wells to test groundwater for contamination. The site is located just beyond the three 1980 census tracts for Seymour, Indiana, but county-level data indicate that the area was 99 percent white.

Baird & McGuire, Holbrook, Massachusetts

Holbrook, home of the Baird & McGuire Superfund site, is a South Shore suburban community near Boston. The 20-acre site, located close to the Cochato River, was used for chemical batching and mixing from 1912 to 1983. In the 1970s, the company was fined numerous times by both state and federal regulators. By 1983, the company had attracted the attention of residents, town selectmen, and the EPA. Residents worried about increased rates of cancer and a citizen filed a complaint regarding oily contamination in the Cochato River. Site inspections revealed extensive contamination of both surface and groundwater. The board of selectmen revoked the firm's permit to store chemicals, and the EPA began to monitor a nearby reservoir for contamination in the drinking water supplies.

The site received extensive coverage from the *Boston Globe*, which focused both on the threat of contamination of the reservoir and on lawsuits from residents who attributed cancer and other serious health issues to the site. Readers of the *Boston Globe*

would associate the South Shore with containing predominantly white and often Irish American communities. The 1980 census tract containing Holbrook was 98 percent white. Litigation surrounding the site continued for years and later *Boston Globe* articles describe the town as “working class” and feature pictures of white plaintiffs (e.g., English 1989; Nealon 1989). Today, the site is fenced off, but not deleted from the NPL. It continues to periodically attract attention from the local press (Rideout 2020).

Conceptual framework, hypotheses, and empirical analysis

Reporting about the five NPL sites most frequently cited in the *Washington Post*, *New York Times*, and *Boston Globe* may have created a perception that Superfund victims were predominantly white and working class. Three of the sites were in largely white areas. Stringfellow, although in a racially diverse community, was discussed primarily through the lens of a political scandal. In the case of Love Canal, Blum (2008) documents that African American residents were ignored by the press. Even if articles made no mention of race or median income, in the early 1980s, readers would likely associate Indiana, Boston’s South Shore, or upstate New York with white working-class residents.

Theoretical models in economics have considered an editor’s decision over news content. These models generally assume that a newspaper’s owners want to maximize profits, which are proxied by the number of readers (e.g., Mullainathan and Shleifer 2005; Gentzkow and Shapiro 2010; Gentzkow, Shapiro, and Sinkinson 2014; García-Uribe 2018). Editors make decisions about the types of articles they publish based on the preferences of readers. We adapt this conceptualization to treat the choice over whether to cover an NPL site as a two-stage process. First, the editor considers whether a site is potentially newsworthy. A potentially newsworthy site is either located within the newspaper’s local coverage area or has site characteristics that are of broader, national significance.⁹ In the empirical specification, we proxy for geographic relevance with indicator variables for sites located, respectively, in Washington, D.C., Virginia or Maryland; in New York, Connecticut or New Jersey; or in Massachusetts, Rhode Island, New Hampshire, or Maine. We use the hazard score to proxy for national significance.

If a site is potentially newsworthy, an editor must decide how intensively to cover that site and choose the types of information to include in published articles. We assume that these choices are based, in part, on the preferences of readers. If readers desire confirmation of their prior beliefs, as suggested by Mullainathan and Shleifer (2005), a newspaper may choose to emphasize sites located in areas that are like the Love Canal neighborhood, the site that was the impetus for CERCLA. In other words, a newspaper would publish more frequent or more detailed stories about NPL sites in white, working-class neighborhoods that call to mind the prior descriptions, if not the full reality, of the area around Love Canal. Alternatively, if subscribers are relatively affluent and wish to read about issues affecting people of similar income, then a newspaper may publish more frequently about sites that affect affluent communities or be more likely to include descriptions of those neighborhoods or residents.

The conceptual framework suggests that the number of articles that mention each NPL site, i , can be described by the function:

$$\text{mentions}_i = f(\text{nonwhite}_i, \text{Hispanic}_i, \text{income}_i, X_i, \text{NY}_i, \text{MA}_i, \text{DC}_i, \text{HRS}_i) \quad (1)$$

⁹Political scandal would also indicate national significance. We have no external measure, separate of newspaper coverage, that we can incorporate into the first stage of the model.

where nonwhite_i and Hispanic_i measure the racial and ethnic makeup of the census tract surrounding the site; income_i measures the median household income; X_i controls for other site characteristics, including the year that a site is proposed for NPL designation; NY_i , MA_i , and DC_i indicate whether the site is located in or near one of these states; and HRS_i measures the hazard score for the site. Given a prior literature that links newspaper coverage to race in other contexts and our qualitative analysis of the five most frequently mentioned NPL sites, we identify several hypotheses related to equation 1.

Consistent with the conceptual model, we expect that sites with high hazard scores and sites located in a state close to the location of the newspaper will be mentioned more frequently. Based on the literature linking the likelihood of newspaper coverage to the race of victims in multiple contexts, we expect a negative relationship between the frequency of coverage and measures of racial diversity. Given that newspapers may have incentives to publish articles about either affluent or working-class neighborhoods, the relationship between the number of articles published about a site and income_i may be either positive or negative. Since prior research identifies the importance of how articles are framed, we expect that the relationship between the characteristics of a census tract, in particular race, and articles published will be stronger when mentions_i is defined more narrowly to include only articles that describe geographic or socioeconomic characteristics, specific chemical pollutants, or the health or environmental risks.

In addition to the relationship described in equation 1, media attention may also affect the duration of site cleanup. Since prior work links community involvement to the duration and form of NPL site remediation, we hypothesize that the number of articles written about a site is correlated to the duration of cleanup. This relationship may be either positive or negative. Media attention may pressure regulators to prioritize a site and remediate more quickly. Alternatively, media attention may cause regulators to remediate more thoroughly but slowly.

To examine these hypotheses, we identify all sites that were added to the NPL during the initial years of Superfund (1982–1986)¹⁰ and match these sites to socioeconomic variables using 1980 census data. Of the 851 sites in our sample, 152 were mentioned at least once in the three newspapers that we reviewed. When limiting the sample to sites within 1980 census tracts, we observe 730 sites in 670 tracts, 138 of which were mentioned in a newspaper article. Restricting the sample further to articles that both identify sites and include some level of detail about neighborhood characteristics, environmental or health risks, and specific chemicals, or quote a resident or community advocate, produces 111 sites.

Table 3 describes the characteristics of the NPL sites in our sample and stratifies sites by media attention. Data for the percent nonwhite, percent Hispanic, and median household income are unweighted averages gathered from the census tracts containing the NPL sites. The 1980 census questionnaire asks respondents to first identify a race and in a follow-up question to identify if they are of “Spanish/Hispanic origin or descent” (U.S. Census Bureau 1982, p. 315). We use the first question to determine the percentage of individuals who are nonwhite and use the follow-up question on Hispanic origin to determine the percentage of the population identifying as

¹⁰In 1989, the EPA moved 29 sites out of the Superfund program and remediated them instead under the Resource Conservation and Recovery Act (EPA 1993). Those sites are, therefore, not included in the EPA’s databases of “Active,” “Final,” and “Deleted” sites and, by necessity, excluded from our data.

Table 3. Socioeconomic characteristics of Superfund sites

	Percent White	Percent nonwhite	Percent Hispanic	Median Income	Hazard score
All NPL sites ($N = 730$)	89.1	10.9	4.8	\$18,565	41.7
NPL sites with media attention ($N = 138$)	91.2	8.8	3.7	\$19,014	45.0
NPL sites without media attention ($N = 592$)	88.6	11.4	5.0	\$18,460	42.0
Love Canal	56.9	38.8	5.4	\$12,533	52.2
Stringfellow	54.5	28.3	25.0	\$15,738	61.4
Times Beach	98.8	0.1	0.2	\$22,127	40.1
Seymour Recycling	99.2	0.4	0.8	\$15,749	58.2
Baird & McGuire Inc.	97.8	1.0	0.7	\$21,894	66.4

Note: Unweighted averages. “Media attention” means at least one mention with details in the *Washington Post*, *New York Times*, or *Boston Globe* during the 1982–1984 period. The data for Seymour Recycling are at the county level since that the site is not located within any 1980 census tract.

Hispanic.¹¹ The sample mean is 10.9 percent nonwhite and 4.8 percent Hispanic, meaning that the tracts containing Love Canal and Stringfellow Acid Pits were relatively diverse.

The EPA data omit HRS scores for a small number of sites that were nominated by their states as a “priority” site, a designation that required automatic inclusion into the NPL. We searched other existing databases, namely scorecard.org, the NIH’s Toxmap project, and U.S. EPA (1993), for the HRS scores of these sites but were unable to identify HRS scores for 14 sites, 10 of which can be mapped to a census tract. Only one of the 14 sites is located in our three geographic areas of interest (states close to Washington, D.C., New York City, or Boston). In our main specification, we replace missing HRS scores with the sample mean and include an indicator variable to identify these 14 sites. We test whether the results are robust to excluding these sites.

We use a zero-inflated negative binomial regression to test the first four hypotheses, which relate to the relationship between the number of times that an NPL site is mentioned in the print media and the characteristics of the census tract surrounding that site. A zero-inflated model is appropriate for a situation where there is an excess of zero counts (i.e., sites never mentioned in the articles) generated by a process separate from the one that is generating count values. Consistent with the conceptual framework, we model excess zeros in the first stage of our specification as a function of geography (indicator variables for states) and hazard score.

Our dependent variable is one of three count measures for the number of articles written about a site. For our baseline estimations, we simply count the number of

¹¹Given that Hispanic origin is defined independently of race, it is not surprising that most rows in Table 3 add to values slightly above 100%. Crosstabs on the combined responses to the race and Hispanic origin questions are frequently suppressed. One known concern with the 1980 questionnaire is that Hispanic respondents would answer “other” for race, write in “Hispanic” in the space next to “other,” and then leave the response to the subsequent question on Hispanic origin blank, viewing the question as redundant (Martin, Demaio, and Campanelli 1990).

times a site is mentioned in any newspaper. Given our review of specific articles, we believe that this overall count may miss an important trend. Articles frequently mention some sites, like Stringfellow, but report neither on the pollutants nor on the people impacted. Therefore, we also develop a count measure, which we call *detailed mentions*, that includes only articles with specific site details, such as pollutants, risks, or a description of the neighborhood. Our final measure, *descriptive mentions*, is a subset of *detailed mentions* that counts only articles that include some specific description of the residents or community characteristics, or include a quote from an affected resident or a person advocating on behalf of residents (e.g., a community leader or lawyer). Based on the prior literature that identifies the importance of how stories are framed, *descriptive mentions* can identify articles that acknowledge a human interest or welfare aspect in the narrative. The explanatory variables of the zero-inflated negative binomial regression are the percentage of nonwhite residents, the percentage of residents of Hispanic origin, the log of median household income, the site's HRS score, indicator variables identifying the year a site was added to the NPL, and indicator variables that respectively take a value of one if the site is in Washington, D.C., or a bordering state (Maryland or Virginia), a state near New York City (New York, Connecticut, or New Jersey), or a state near Boston (Massachusetts, Rhode Island, Maine, or New Hampshire). The model also includes two variables that respectively take a value of one if the HRS score or median income is imputed.

After estimating a pooled model that includes media attention from all three newspapers, we investigate patterns of reporting by newspaper and region. We estimate a zero-inflated negative binomial model separately for each newspaper using the number of articles about an NPL site as the dependent variable. It is possible that a newspaper exerts more editorial discretion about whether to investigate local and regional NPL sites. Given that the data include 171 sites in states adjacent to New York City and 46 sites near Boston, we can restrict our analysis by newspaper and state. We limit the sample to New York, Connecticut, and New Jersey and estimate the relationship between the site characteristics and the frequency of coverage in the *New York Times*. Likewise, we restrict the sample to Massachusetts, Rhode Island, Maine, and New Hampshire and estimate the same relationship in the *Boston Globe*. We cannot do the analogous estimation for *Washington Post* coverage of sites in Washington, D.C., Virginia, or Maryland because there are only 21 sites in these states, nearly all of which receive media attention. Both the *New York Times* and *Boston Globe* report extensively about sites in nearby states, which is consistent with our hypothesis that excess zeros are determined by geographically distant sites. Since there is no excess of zero counts for these stratifications, estimations limiting the sample by newspaper and state use a negative binomial estimator.

We test the robustness of the results using alternate stratifications. First, we include sites that are outside of any census tract using the county-level income and race measures for those sites. While this inclusion allows us to maximize our observations, it is not our preferred specification. Except for Seymour, Indiana, very few sites outside of census tracts are mentioned in any of the three newspapers. In the geographic areas that interest us most, only one site near Washington D.C., zero sites near New York, and three sites near Boston are located outside of census tracts. Measuring explanatory variables at the county level ignores within-county variation and risks bias due to the "ecological fallacy" (Banzhaf, Ma, and Timmins 2019). NPL sites are likely to be in poorer and more nonwhite portions of a county relative to the county-level averages. A second test for robustness excludes sites entirely if the

HRS score is missing. A third specification limits the sample to Superfund sites that were added to the NPL prior to 1985, rather than prior to 1987, in order to most conservatively identify sites that were potentially newsworthy. A final specification excludes the Love Canal, Hooker S-Area, and Stringfellow Acid Pits sites. The Hooker S-area site is close to Love Canal and several New York Times articles discussed both sites. The goal of this specification is to see if the exclusion of these sites in diverse neighborhoods reveals a broader bias against reporting on sites located in census tracts with large Hispanic or nonwhite populations.

We use a Cox proportional hazards model to explore the hypothesis that media coverage is correlated to the duration of remediation, as measured by the time elapsed between the date that a site gets added to the NPL and the date that construction is completed. It is important to emphasize that results from this model have no direct causal interpretation. The decision to write about a site is endogenous and may be related to unobserved characteristics like legal, political, or logistical hurdles to speedy remediation.

Results

Tables 4 through 7 present results. The top portion of Table 4 shows the second stage results from a zero-inflated negative binomial model, where the pooled count of articles from all three newspapers is the dependent variable. The three estimations differ in the way this dependent variable is measured. The first column (*mentions*) counts the number of articles that identify a site. The second column (*detailed mentions*) only counts the number of articles that mention a site and include details like descriptions of pollutants, risks, or the neighborhood. The final column (*descriptive mentions*) only includes sites mentioned in articles that have specific descriptions of the neighborhood or its residents, or includes a quote from a resident or an advocate for residents.

The results show a positive and statistically significant relationship between the number of articles and the hazard score, but no statistically significant link to race, Hispanic origin, or median income at conventional levels. These coefficient estimates suggest that there is little association between the socioeconomic characteristics of a site's census tract and the frequency of reporting. Furthermore, across columns, the coefficients on measures for nonwhite and Hispanic do not increase in magnitude or statistical significance from left to right. These initial results provide no support for our hypotheses that newspapers would report less frequently on NPL sites in racially diverse census tracts and that a narrower definition of media attention would reveal this relationship more clearly. The bottom of the table, which shows first-stage results, confirms that geography predicts excess zeros. The hazard score is significant at the 10 percent level for two of the three measures. A negative coefficient indicates a decreased probability of an excess zero. These results are consistent with the conceptual framework: newspapers focus on local or hazardous sites.

Table 5 stratifies media attention by newspaper. Each row presents the results of a different estimation, showing the coefficient estimates for our three main variables of interest: percent nonwhite, percent Hispanic, and log of household income. For each newspaper, we first report results from the zero-inflated negative binomial specifications for all three dependent variables. To investigate how newspapers report on local sites, additional rows in Table 5 focus on *New York Times* articles about the 171 NPL sites in New York, Connecticut, or New Jersey census tracts and on *Boston Globe* articles

Table 4. Relationship between race, ethnicity, and income and frequency of media coverage, pooled model

	(1) All mentions	(2) Detailed mentions	(3) Descriptive mentions
Percent nonwhite	0.022 (0.017)	0.014 (0.011)	0.018 (0.014)
Percent Hispanic	0.028 (0.025)	0.019 (0.014)	0.000 (0.018)
Log median income	-0.606 (0.440)	-0.690 (0.462)	-0.726 (0.509)
HRS score	0.039*** (0.010)	0.034** (0.013)	0.011 (0.015)
Population (in thousands)	-0.001 (0.045)	0.036 (0.055)	-0.007 (0.070)
NY, NJ, or CT	-0.108 (0.402)	0.048 (0.389)	-0.419 (0.535)
D.C., VA, or MD	0.610 (0.505)	0.509 (0.481)	-0.243 (0.644)
MA, RI, NH, or ME	1.431*** (0.394)	1.113** (0.438)	0.992** (0.497)
First stage			
HRS score	-0.034* (0.020)	-0.029 (0.022)	-0.037* (0.021)
NY, NJ, or CT	-2.433*** (0.472)	-2.006*** (0.478)	-2.072*** (0.608)
D.C., VA, or MD	-31.906*** (0.526)	-31.803*** (0.520)	-4.896*** (1.368)
MA, RI, NH, or ME	-16.082*** (2.327)	-4.438** (2.477)	-2.385*** (0.502)

N = 730. Zero-inflated negative binomial coefficient estimates. Standard errors, clustered by the census tract, in parentheses. Significance levels: *0.10, **0.05, ***0.01. Estimations include indicator variables for year added to NPL, imputed hazard score, and imputed income. *Detailed mentions* includes articles that mention environmental risks, health risks, a direct quote from an affected individual, or a description of the neighborhood or residents. *Descriptive mentions* includes articles that include a direct quote from an affected individual or a description of the neighborhood or its residents.

about the 46 NPL sites in Rhode Island, Massachusetts, New Hampshire, or Maine census tracts.¹²

Across all stratifications, signs are largely consistent with those reported in Table 4. The coefficients for percent nonwhite and percent Hispanic are mostly positive and the coefficient for the log of household income is generally negative. For the *Washington Post*, none of these relationships rise to the level of statistical significance at conventional levels. For the *New York Times*, there is robust evidence that the newspaper reported more frequently about Superfund sites in areas that had larger nonwhite or Hispanic populations. The pattern is most pronounced when considering sites in nearby states. This result is counter to our expectation that diverse tracts would receive less attention.

The results for the *Boston Globe* are less consistent when using the narrowest definition of media attention, descriptive articles. This measure produces contradictory results for percentage nonwhite and percentage Hispanic when considering either all tracts or only tracts in Massachusetts, Rhode Island, Maine, and New Hampshire. While this seems to suggest that the newspaper treated local and geographically distant sites differently, inferences are based on limited variation in the outcome variable. There

¹²Recall that this exercise is not feasible for coverage in the *Washington Post*, since there are only 21 sites in the VA, MD, and D.C. area, 16 of which were at least mentioned in a *Washington Post* article.

Table 5. Relationship between race, ethnicity, and income and frequency of media coverage by newspaper

	Percent nonwhite	Percent Hispanic	Log median income	N
<i>Washington Post</i>				
All mentions (all tracts)	0.018 (0.016)	0.024 (0.023)	-0.988 (0.824)	730
Detailed (all tracts)	0.018 (0.021)	0.016 (0.019)	-0.642 (0.680)	730
Descriptive (all tracts)	0.004 (0.024)	0.013 (0.024)	-1.153 (0.907)	730
<i>New York Times</i>				
Mentions (all tracts)	0.032* (0.018)	0.037 (0.033)	-0.189 (0.491)	730
Detailed (all tracts)	0.029* (0.015)	-0.009 (0.038)	-0.087 (0.950)	730
Descriptive (all tracts)	0.027 (0.025)	0.007 (0.041)	-0.130 (0.818)	730
Mentions (NY, NJ, CT)	0.024* (0.013)	0.078** (0.035)	-0.059 (0.562)	171
Detailed (NY, NJ, CT)	0.022* (0.013)	0.102*** (0.037)	0.043 (0.668)	171
Descriptive (NY, NJ, CT)	0.028** (0.014)	0.098** (0.047)	-0.193 (0.842)	171
<i>Boston Globe</i>				
Mentions (all tracts)	0.048 (0.030)	0.011 (0.043)	-0.097 (0.730)	730
Detailed (all tracts)	-0.004 (0.042)	-0.000 (0.061)	0.000 (0.960)	730
Descriptive (all tracts)	0.062*** (0.020)	-0.052** (0.023)	-0.008 (1.290)	730
Mentions (MA, RI, NH, ME)	0.057 (0.057)	0.190** (0.080)	1.013 (0.724)	46
Detailed (MA, RI, NH, ME)	0.090 (0.069)	0.219** (0.100)	1.485* (0.828)	46
Descriptive (MA, RI, NH, ME)	-0.696*** (0.254)	1.033*** (0.250)	4.832*** (1.682)	46

Each row presents coefficient estimates from a separate estimation. Standard errors, clustered by census tract, in parentheses. Significance levels: *0.10, **0.05, ***0.01. Estimations include all explanatory variables from Table 4. *Detailed mentions* includes articles that mention environmental risks and health risks. *Descriptive mentions* includes articles that include a direct quote from an affected individual or a description of the neighborhood or its residents. Estimations using all census tracts are zero-inflated negative binomial (second stage). Estimations limited to specific states are negative binomial.

are only 46 sites near Boston, 21 of which were described in an article that includes features like a quotation or specific geographic details. Setting aside the descriptive measure, the remaining results indicate that the *Boston Globe*, particularly when reporting about nearby sites, shows an increased likelihood of reporting on sites with larger Hispanic populations.

Overall, these results suggest that the editors at the *New York Times* and *Boston Globe* were more willing to report on sites in nonwhite and Hispanic neighborhoods and to do so in a way that identified the risks faced by the residents of those communities. This pattern is particularly strong when considering sites in nearby states, where we expect that editors had the most discretion in how local area sites were covered. This empirical result is a puzzle; the finding is inconsistent with a prior literature that argues that newspapers fail to report about minority victims in other contexts and unexpected, given our qualitative review, which revealed almost no discussion of race or ethnicity in articles about NPL sites.

Table 6. Robustness checks and alternate stratifications, by newspaper

	Percent nonwhite	Percent Hispanic	Log median income	<i>N</i>
<i>Washington Post</i>				
All tracts (from Table 5)	0.018 (0.021)	0.016 (0.019)	-0.642 (0.680)	730
Include sites not in census tracts	0.013 (0.014)	0.028 (0.019)	-0.764 (0.634)	851
Exclude sites missing the HRS score	0.024 (0.017)	0.014 (0.016)	-0.838 (0.682)	720
Exclude sites added to NPL after 1984	0.018 (0.021)	0.016 (0.019)	-0.642 (0.660)	638
Exclude Love Canal, Hooker S-Area, and Stringfellow Acid Pits	-0.005 (0.009)	0.007 (0.016)	-0.427 (0.684)	727
<i>New York Times</i>				
NY, NJ, CT sites (from Table 5)	0.022* (0.013)	0.102*** (0.037)	0.043 (0.668)	171
Exclude sites added to NPL after 1984	0.021 (0.013)	0.103*** (0.038)	0.001 (0.670)	159
Exclude Love Canal and Hooker S-Area	0.017 (0.014)	0.105*** (0.038)	0.162 (0.673)	169
<i>Boston Globe</i>				
MA, RI, NH, ME sites (from Table 5)	0.090 (0.069)	0.219** (0.100)	1.485* (0.828)	46
Include sites not in census tracts	0.092 (0.059)	0.220** (0.100)	1.660*** (0.636)	49
Exclude sites added to NPL after 1984	0.082 (0.071)	0.224** (0.099)	1.341 (0.849)	43

Each row presents coefficient estimates from a separate estimation, using detailed mentions as the dependent variable. Clustered standard errors in parentheses. Significance levels: *0.10, **0.05, ***0.01. Estimations include all explanatory variables from Table 4. *Detailed mentions* includes articles that mention environmental risks, health risks, a direct quote from an affected individual, or a description of the neighborhood or residents. Estimations using all census tracts are zero-inflated negative binomial. Estimations limited to specific states are negative binomial.

The results from robustness checks are reported in Table 6. Once again, each row presents the results of a separate estimation and the sample is stratified by newspaper. All rows use *detailed mentions* as the dependent measure. For the *Washington Post*, adding sites from outside of census tracts increases the sample size significantly. All sites in states abutting New York City could be mapped to a census tract, so the robustness check for including additional sites is omitted. Likewise, all sites in the New York and Boston area samples have an HRS score, so the robustness check for excluding sites without an HRS score is omitted. Overall, the coefficient estimates are largely consistent with those of Table 5. Excluding the widely discussed Love Canal, Hooker S-Area, and Stringfellow Acid Pits sites modifies this conclusion only slightly. The sign on the coefficient estimates for percent Hispanic remains positive, but nonwhite becomes negative

in the *Washington Post* sample and is positive, but no longer statistically significant, in the *New York Times* sample.

Table 7 examines the relationship between the number of articles written about a site in the *Washington Post*, *New York Times*, or *Boston Globe* and the duration of site cleanup, as measured by the days elapsed from the date a site is added to the NPL and the date that construction is complete. This table reports coefficients from a Cox proportional hazards model; a positive coefficient represents an increased likelihood of construction being complete at any given time. The left two columns use the full population of sites, using the two more specific measures of media attention and the right two columns restrict the sample to sites in New York, Connecticut, and New Jersey. The results seem consistent with those of other studies (e.g., Sigman 2001; Burda and Harding 2014): more hazardous sites take longer to remediate, and geography, captured here by state-level indicator variables, is also correlated to the speed of cleanup. The measure for nonwhite is significant at the 10 percent level, indicating that remediation takes longer in these neighborhoods. Media attention does not appear to be linked to the pace of remediation.

Conclusion

We hypothesize that the number and types of articles written about an NPL site would be related to the characteristics of the census tract, such as the percentage of nonwhite residents, the percentage of Hispanic residents, and median household income. To explore our hypotheses, we choose a time period that corresponds to the beginning of the environmental justice movement. The passage of CERCLA and the initial listing of over 750 NPL sites allow us to study the media at a time when editors had the opportunity to select among numerous NPL sites for coverage. Particularly when covering local or regional sites, newspapers had a further choice about what information to include in an article. Since a small number of sites received a disproportionate share of attention, we start with a qualitative review of how the print media covered the five most frequently mentioned sites. Two sites, Stringfellow Acid Pits and Love Canal, were in racially diverse census tracts, but this fact would be difficult to discern from the reporting. The other three sites were in predominantly white communities. The articles that told the stories of victims most extensively (e.g., Harris 1983) were about Times Beach, Missouri, located in a census tract that was over 98 percent white.

Given our review of the five most covered sites, we explore whether there is a pattern in the broader data indicating that the print media covered sites in predominantly white neighborhoods more intensely. Our empirical analysis does not support this conclusion. We find no definitive link between the characteristics of a community and the likelihood that an NPL site within that community gets mentioned in any of the three newspapers. To the degree there is any differentiation in the coverage of sites, the pattern is contrary to our hypothesis. When the sample is stratified by newspaper, or by both newspaper and geographic area, the intensity of coverage increases with the proportion of nonwhite (*New York Times* and *Boston Globe*) or Hispanic (*Boston Globe*) residents. This pattern is most pronounced when the sample is limited to *New York Times* coverage of New York, Connecticut, and New Jersey sites and *Boston Globe* coverage of Massachusetts, Rhode Island, New Hampshire, and Maine sites.

The qualitative review of the five most frequently mentioned NPL sites and the statistical analysis appear to have conflicting implications. Allowing the qualitative review to inform the interpretation of coefficient estimates helps to reconcile the two

Table 7. Duration from listing to construction complete (Cox proportional hazards)

	(1) Full sample: Detailed mentions	(2) Full sample: Descr. mentions	(3) NY, NJ, CT: Detailed mentions	(4) NY, NJ, CT: Descr. mentions
<i>Washington Post</i>	-0.047 (0.084)	0.102 (0.157)	0.011 (0.168)	-0.467 (0.472)
<i>New York Times</i>	-0.040 (0.081)	-0.319* (0.169)	-0.068 (0.109)	-0.197 (0.212)
<i>Boston Globe</i>	-0.004 (0.038)	-0.032 (0.089)	0.141 (0.329)	0.817 (0.538)
Percent nonwhite	-0.006* (0.003)	-0.005* (0.003)	-0.003 (0.008)	-0.003 (0.008)
Percent Hispanic	-0.003 (0.005)	-0.003 (0.005)	-0.033 (0.026)	-0.024 (0.027)
Log median income	0.125 (0.160)	0.125 (0.160)	-0.008 (0.356)	-0.015 (0.355)
HRS score	-0.018*** (0.005)	-0.018*** (0.005)	-0.021* (0.011)	-0.019* (0.011)
Population (in thousands)	-0.001 (0.015)	0.001 (0.015)	0.033 (0.035)	0.026 (0.035)
D.C., VA, or MD	-0.899*** (0.318)	-0.971*** (0.313)	—	—
NY, NJ, or CT	-0.509*** (0.108)	-0.482*** (0.106)	—	—
MA, RI, ME, or NH	-0.412** (0.200)	-0.407** (0.190)	—	—
Observations	726	726	171	171

Coefficient estimates for the Cox proportional hazards model. The first three rows identify the detailed (columns 1, 3) or descriptive (columns 2, 4) mentions by newspaper. Standard errors, clustered by census tract, in parentheses. Significance levels: *0.10, **0.05, ***0.01. Estimations include indicator variables for year added to NPL, imputed hazard score, and imputed income. *Detailed mentions* includes articles that mention environmental risks, health risks, a direct quote from an affected individual, or a description of the neighborhood or residents. *Descriptive mentions* includes articles that include a direct quote from an affected individual or a description of the neighborhood or its residents.

approaches. The statistical analysis reveals that the hypothesis that the print media ignored communities of color is too simplistic. Articles in all three papers frequently mentioned NPL sites in diverse communities. However, articles that included some description of the neighborhood or quotations from affected individuals were relatively rare, regardless of location. Although local economic conditions were occasionally included in the framing of a story, neither race nor Hispanic origin was ever treated as relevant. In other words, the framing of the story, in addition to the number of articles, matters. The three measures of media attention used here only partially control for that framing. Love Canal provides an example of this. Because Love Canal was mentioned in many articles and was also located in a relatively diverse census tract, the inclusion of this site contributed to positive and statistically significant coefficient estimates for percent nonwhite in the *New York Times* sample (see Table 6). However, the *New York Times* articles about Love Canal never mention race nor acknowledge the plight of African American tenants living near the site. The newspaper covered a site in a diverse community but ignored an important social justice story.

This pattern of newspapers reporting about sites in disadvantaged communities but failing to frame those stories in the context of race, income, or environmental justice might have had implications for both the eventual renewal of CERCLA and the environmental justice movement. The choice to print articles that omitted descriptions of race or the context of environmental justice may have, perversely, contributed to the popularity of the Superfund program and, therefore, influenced the policymaking processes to expand and renew Superfund legislation. The period between the passage of CERCLA (1980) and its subsequent renewal (1986) was one that was typified by diminished willingness to support policies with poor or minority beneficiaries (Kluegel and Smith 1986, pp. 163–64). The degree to which media coverage reinforced the perception that Superfund benefited white working-class victims of pollution may have generated support for the renewal of the Superfund program. In the early 1980s, CERCLA had widespread popular support: over 70 percent of respondents in public opinion polling supported either continuing Superfund at current levels or increasing the financial support for the Superfund law (Hird 1994, p. 73).

On the other hand, if the print media had instead reported on disadvantaged communities by emphasizing characteristics like race or adverse economic conditions, such reporting might have complemented the message of civil rights activists who were raising awareness of racial and income disparities in exposure to toxic pollutants. Attention from the media could have helped facilitate more community involvement or encouraged lawmakers and regulators to acknowledge the issue of environmental justice earlier. This opportunity never materialized. All aspects of media attention reviewed in this article—the coverage of five prominent sites, a search for all mentions of race, ethnicity, and economic conditions, and a statistical analysis of coverage received by NPL sites—indicate that major newspapers failed to convey how NPL sites affected communities of color.

Data availability statement. Data for this study were gathered from *Nexis Uni*, *ProQuest*, and the Minnesota Population Center's National Historical Geographic Information System database. Data and other resources that are necessary to replicate the findings will be made available by using an external repository.

Acknowledgments. The authors thank Eugenia Cheah, Morgan Crowley, Gökhan Kumpas and Leili Solatayavari for research assistance, and Richard England, Karen Conway and two referees for helpful

comments. Robert Mohr thanks the University of Canterbury for supporting his research through the Erskine Visiting Scholars program.

Funding statement. This research received no specific grant from any funding agency, commercial, or not-for-profit sectors.

Conflicts of interest. None declared.

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Cite this article: Mohr RD, Cunningham C, Saha S, Vincenzi M (2021). Coverage of National Priority List sites by the print media during the implementation of Superfund: the role of race and income. *Agricultural and Resource Economics Review* 50, 559–582. <https://doi.org/10.1017/age.2021.20>