

America's Children and the Environment, Third Edition

DRAFT Indicators

Environments and Contaminants: Contaminated Lands

EPA is preparing the third edition of *America's Children and the Environment* (ACE3), following the previous editions published in December 2000 and February 2003. ACE is EPA's compilation of children's environmental health indicators and related information, drawing on the best national data sources available for characterizing important aspects of the relationship between environmental contaminants and children's health. ACE includes four sections: Environments and Contaminants, Biomonitoring, Health, and Special Features.

EPA has prepared draft indicator documents for ACE3 representing 23 children's environmental health topics and presenting a total of 42 proposed children's environmental health indicators. This document presents the draft text, indicators, and documentation for the contaminated lands topic in the Environments and Contaminants section.

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For more information on America's Children and the Environment, please visit www.epa.gov/ace. For instructions on how to submit comments on the draft ACE3 indicators, please visit www.epa.gov/ace/ace3drafts/.

1 **Contaminated Lands**

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3 Accidents, spills, leaks, and improper disposal and handling of hazardous materials and wastes
4 have resulted in tens of thousands of contaminated sites across the United States. The nature of
5 the contaminants and the hazards they present vary greatly from site to site. Common categories
6 of land contaminants include industrial solvents, petroleum products, metals, residuals from
7 manufacturing processes, pesticides, and radiological materials, as well as naturally occurring
8 substances. Contaminated lands can threaten human health and the environment, in addition to
9 hampering economic growth and the vitality of local communities.

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11 The presence of contaminated soils in a particular location may or may not have health
12 consequences. Soils, unlike air and water, are not intentionally inhaled, absorbed, or ingested.
13 Contaminants diffuse more slowly through soil than through air or water, so contaminants are
14 rarely distributed uniformly across a contaminated site. Soils are a concern if children are
15 playing, attending school, or residing on contaminated land. People and pets may track
16 contaminated soils and dusts into homes where infants and toddlers are playing. Some
17 contaminants may harm or penetrate the skin, and by touching or playing in them children may
18 come into direct contact with toxins, microbes, or other hazardous materials. Children may ingest
19 soils through hand-to-mouth play or by eating without first washing their hands after having
20 touched contaminated soil. Soil dust may be inhaled when particles are carried on the wind.
21 Larger inhaled soil particles are deposited in the upper airways during normal breathing, while
22 small and fine particles can find their way to the deep parts of the respiratory system where they
23 can be very damaging. The most crucial step to minimizing risks to children from contaminated
24 soils is to prevent these exposures.

25
26 In addition, contaminated land may contribute to pollution of ground water, surface water,
27 ambient air, and foods, creating additional potential human exposure routes. For example,
28 consumption of fish caught at or near a contaminated site or consumption of drinking water from
29 contaminated groundwater or surface water sources may contribute to an increased risk of
30 exposure originating from the contaminated land. When drinking water sources are affected at
31 EPA-tracked contaminated sites, an alternate water supply is provided, in some cases
32 permanently.

33
34 Cleanup of contaminated lands may be conducted by EPA, other federal agencies, states, tribes,
35 municipalities, or the company or party responsible for the contamination. EPA's programs for
36 assessing and cleaning up contaminated lands currently track roughly 22 million acres of land
37 across the United States, or just under 1% of the entire U.S. land mass. EPA and its partners
38 conduct work on contaminated lands through federally mandated programs such as the
39 Superfund and Corrective Action programs. Superfund aims to clean up some of the most highly
40 polluted abandoned commercial, industrial, and residential properties in the country. The
41 Corrective Action program, implemented under the Resource Conservation and Recovery Act
42 (RCRA), aims to control and clean up releases at hazardous waste treatment, storage, and
43 disposal facilities. Other programs that focus on management of contaminated lands include

Environments and Contaminants: Contaminated Lands

1 Brownfields, underground storage tanks, and programs for RCRA hazardous waste sites other
2 than Corrective Action sites.

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4 EPA prioritizes sites for cleanup using information from initial investigations regarding possible
5 threats to human health or the environment. The focus is to protect people from the most
6 contaminated lands and to clean up these sites to a standard that is protective, and that state, local
7 or tribal governments and communities deem appropriate based on the future uses of the
8 individual site. EPA and partner agencies work to contain possible routes for exposure as soon as
9 possible, so that sites attain a standard called “Protective for People” (PFP).^{1,2}

10
11 During the assessment and cleanup process, when a potential pathway for exposure is identified,
12 a process is normally initiated for the pathway to be minimized or eliminated. For Superfund
13 sites and for hazardous waste facilities requiring Corrective Action, EPA or authorized state
14 regulators assess contaminated media, exposure pathways, risks from complete pathways, and
15 the significance of any risks. If no significant human health risks are identified, a determination
16 is made that the site is PFP. If significant human health risks are or may be present, regulators
17 work to choose site-specific controls (e.g., fencing, caps, containment walls) and cleanup
18 activities (e.g., excavation, groundwater treatment) necessary to reduce the risks and achieve PFP
19 status.

20
21 PFP status is reviewed annually in the Superfund program. If additional contamination or
22 previously unrecognized pathways of exposure are identified, a site that is designated as PFP
23 may be redesignated as non-PFP until pathways of exposure are controlled.

24
25 Designation of a site as PFP indicates that known pathways of exposure have been controlled,
26 although additional cleanup work may remain. Consequently, PFP sites pose a reduced risk to
27 children compared with sites that have not yet been designated PFP. However, sites that are not
28 designated PFP include many that have not yet been adequately assessed; it is unknown whether
29 there is a significant risk to human health from these sites. In the absence of information that
30 identifies children who are actually exposed to hazards from contaminated lands, assessing the
31 number of children who live near sites that are not designated PFP provides an approximation of
32 the potential scope of risk.

33
34 Children who have been exposed to contaminants do not all experience the same health
35 outcomes. A good deal of evidence indicates that, due to genetic or socio-cultural factors or a
36 combination of the two, different populations will have different outcomes from the same
37 exposure. Some populations will have worse outcomes and others will have outcomes that are
38 less severe. Socio-cultural factors that can play a critical role in determining physical and
39 psychological health include family income, unemployment, nutrition, education, housing and
40 infrastructure, race, gender, class, access to health services, social cohesion, participation in local
41 decision-making, exercise, and health related behaviors (e.g., smoking, drug abuse).³⁻¹⁰ Together
42 with genetic factors, sociologic factors help to explain why different individuals and different
43 communities experience different risks as a consequence of exposures or threats of exposures to
44 contaminants, toxins, or microbes in the soil, air, or water.

Environments and Contaminants: Contaminated Lands

1 Of the many sociologic determinants of health, the relationships between race/ethnicity and
2 health status and between lower levels of income and less optimal health are among the most
3 documented.¹¹⁻¹⁴ Because these factors are related to many of the other sociologic determinants,
4 they are frequently used as proxies for a larger set of factors. For these reasons, the following
5 indicators of children living in proximity to contaminated lands focus on differences by
6 race/ethnicity and family income level.

Indicator E9: Percentage of children ages 0-17 years living within one mile of Superfund and Corrective Action sites that were not “Protective for People,” 2009

Indicator E10: Percentage of children living near selected contaminated lands by race, ethnicity and family income, compared with children’s distribution in the general U.S. population, 2009

Overview

Indicators E9 and E10 present information about children living within one mile of Superfund sites or RCRA Corrective Action sites that were not designated as “Protective for People” (PFP) as of October 1, 2009. Site boundaries were estimated and a computer mapping tool was used to identify all land areas within one mile of each of these sites. Data from the U.S. Census were then used to estimate the population of children living within these areas.

Indicator E9 provides information about U.S. children living within one mile of these selected sites, including the percentage of children in proximity by race, ethnicity, and family income.

Indicator E10 compares the race/ethnicity profile of children living within one mile of these selected sites with the profile for all children living in the United States.

Corrective Action and Superfund Sites

These indicators use data from EPA’s Office of Solid Waste and Emergency Response, specifically from the RCRA Corrective Action Program and the Superfund Program. As of October 1, 2009 there were 1,657 Corrective Action and Superfund sites, totaling more than 10 million acres, that had not been designated as “Protective for People” (PFP).² Of the 3,746 Corrective Action sites at that time, 1,300 were not PFP. Of the 1,727 Superfund sites, a total of 357 were not PFP. The location and extent of each site are characterized by the latitude and longitude of a single point within that site, and the area (total acres) of the site, obtained from the official documentation for each site.¹

Some of the largest sites that EPA oversees are federal facilities that can be hundreds of thousands of acres in size. Among the sites that were not PFP in 2009, 47 Corrective Action sites and 62 Superfund sites were federal facilities.

Estimating Site Areas and Children’s Proximity

For purposes of indicator calculation, the actual land area within each site was approximated using the latitude/longitude and acreage information. A circle whose area equaled the site’s acreage was drawn around each site’s latitude/longitude identification point. It is important to

¹ Actual boundaries of the sites are available in digital form for only a few sites.

Environments and Contaminants: Contaminated Lands

1 note that these areas are not the actual site boundaries, and are not expected to reflect the actual
2 area of contamination. Contamination will likely be determined by factors such as the release of
3 waste, the contours of the land, and groundwater flow. Sites also have hotspots (areas with high
4 levels of contamination) and areas that have been remediated or were never contaminated. The
5 site boundaries are therefore likely to overestimate the area of a site that is contaminated.
6 Nonetheless, approximating the area of a site with a circle is a reasonable assumption that
7 provides the best available information for this analysis.
8

9 To identify land areas in proximity to the selected contaminated lands, a one-mile buffer was
10 drawn around the circle representing each site. Data on total child population, and population by
11 race and ethnicity, were collected from the 2000 Census for children living in Census blocks
12 whose center point was within the one-mile buffer boundary. Information on family income
13 levels (percentage above and below poverty level, by race and ethnicity) was extrapolated for
14 these blocks from Census block group data. Data from the 2000 census were used in order to
15 obtain necessary population race/ethnicity and income statistics at the local level; this
16 information is not available in the 2009 census estimates.ⁱⁱ

17 **Data Presented in the Indicators**

18 Each indicator presents a characterization of the population of children living within one mile of
19 Superfund or RCRA Corrective Action sites that were not designated as PFP as of October 1,
20 2009. Indicator E9 shows the percentage of children living within one mile of a site, by
21 race/ethnicity and family income. Indicator E10 shows the proportion of children of each race
22 and ethnicity among those living in proximity to the selected sites, compared with the
23 race/ethnicity proportions among all children in the United States. This comparison is also made
24 for children living in homes with incomes below poverty level. Tables of values for these
25 indicators at the state level are available in the Appendix to this document.
26

27 Data for seven race/ethnicity groups are presented in the indicators: White, Black, Asian,
28 American Indian or Alaska Native (AIAN), Native Hawaiian or Other Pacific Islander (NHPI),
29 Other Races, and Hispanic. “Other Races” includes those who are of multiple races. Children of
30 Hispanic ethnicity may be of any race. Data presented by race do not include any designation of
31 ethnicity; for example, “Black” includes both Hispanic and non-Hispanic Black children.
32 Hispanic children are thus represented twice. Three family income categories are presented in the
33 indicators: all incomes, below the poverty level, and greater than or equal to the poverty level.
34

35 PFP designations were made for the first time in 2009; trend data are not reported because PFP
36 designations are not available for earlier years.ⁱⁱⁱ
37

38 For purposes of these indicators, proximity to a site is used as a surrogate for potential exposure
39 to contaminants found at these sites. The indicators do not imply any specific relationship

ⁱⁱ A greater percentage of children were living in poverty in 2009 than in 2000; therefore, these calculations will understate the proportion of children below poverty living in proximity to the selected contaminated lands in 2009.

ⁱⁱⁱ These data cannot be compared to Indicator E9 from previous editions of *America’s Children and the Environment*. Previous versions considered only Superfund sites; represented each site as a single point, rather than an area; and did not consider PFP designation.

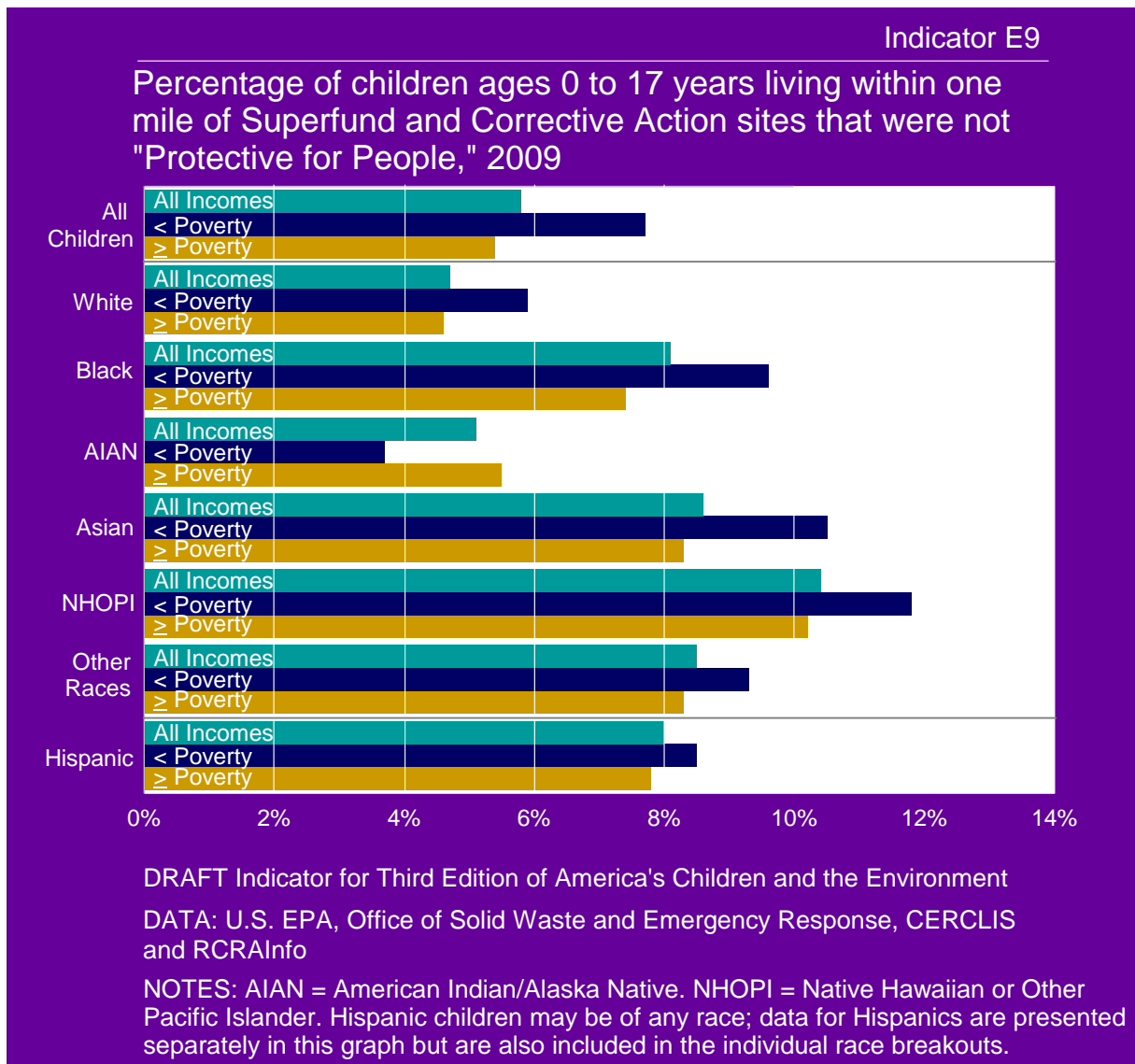
Environments and Contaminants: Contaminated Lands

1 between childhood illness and a child's proximity to a Superfund or Corrective Action site.
2 Information on amounts of environmental contamination, which would be a source of exposure
3 to children, is generally available for these sites, but information on the extent to which children
4 are actually exposed is not generally available. Because of the ways in which children can be
5 exposed to land contaminants and the potential for certain contaminants to move into
6 groundwater or to vaporize through soil, the proximity to contaminated sites may increase the
7 potential for exposure and the possible health consequences, but proximity to a site does not
8 mean that there will always be exposure. Nor does proximity to a site represent risks of adverse
9 health effects. The risk of exposure posed to children varies significantly across all the different
10 types of contaminated sites and the different activities of children on or near the sites. Many sites
11 do not pose risks outside of property boundaries.

12
13 These indicators present a high-end approximation of children at risk from the Corrective Action
14 and Superfund sites that are not PFP, but do not include children near the much larger universe
15 of Brownfield sites, leaking underground storage tanks, and sites addressed solely by state, tribal,
16 and local authorities or private companies. While the indicators include those RCRA Corrective
17 Action sites assumed to have the most potential for contamination, these sites represent only a
18 subset of waste treatment, storage, or disposal facilities currently regulated by EPA. The
19 indicators also do not capture the proportion of children living near contaminated sites that are
20 yet to be identified. Access to uncontrolled contamination remains the greatest risk of potential
21 exposure, and risks are most likely to have been greatest prior to intervention by EPA and
22 partner agencies. The ultimate cleanup of these sites best assures reduced health risks for
23 children by eliminating the possibility of exposure and promotes the health of their communities
24 since cleanup opens the way for sustainable redevelopment and revitalization opportunities.

Environments and Contaminants: Contaminated Lands

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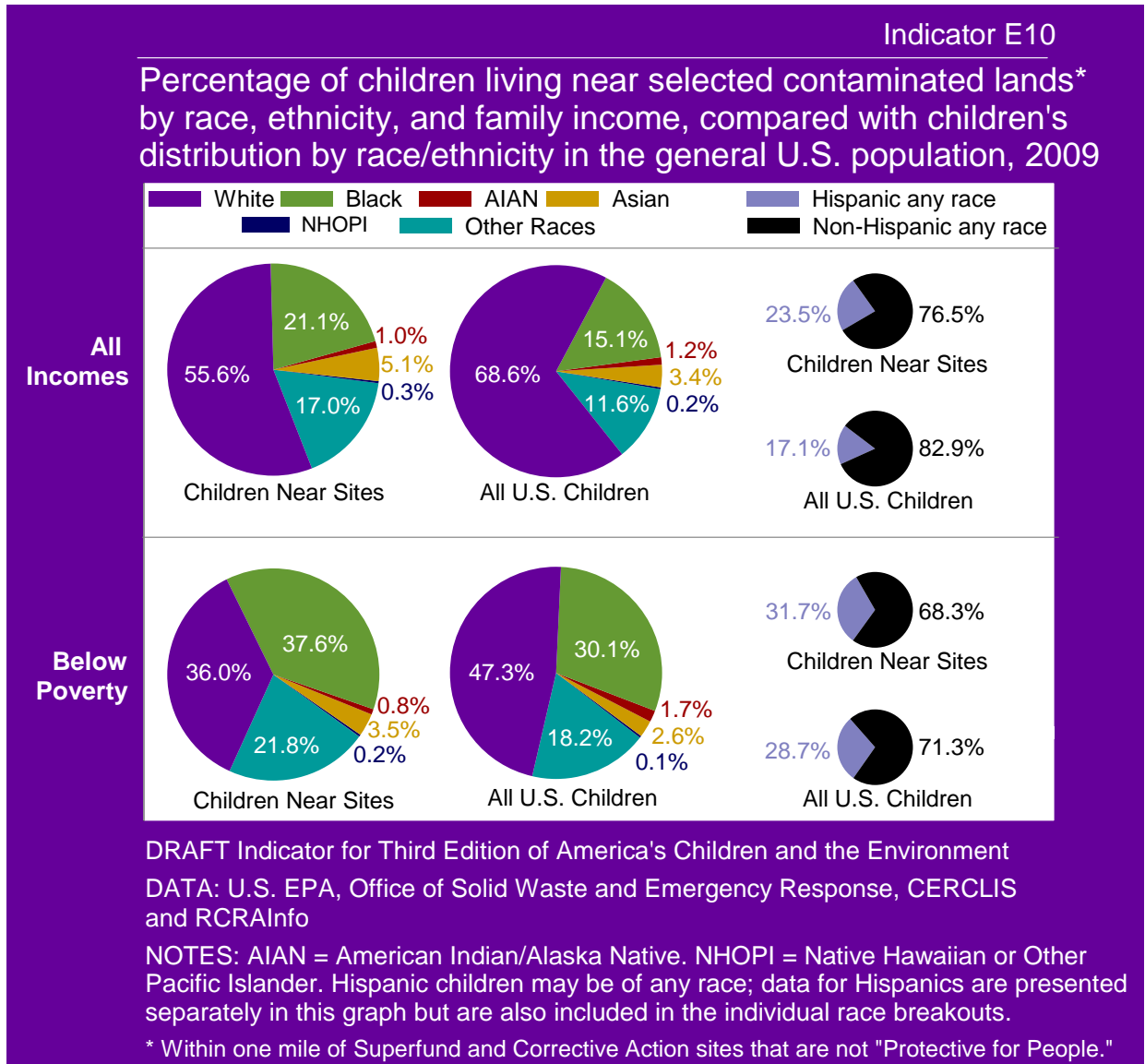
- In 2009, approximately 6% of all children in the United States lived within one mile of Corrective Action or Superfund sites without a “Protective for People” (PFP) designation.
- About 8% of Black children, 9% of Asian children and those of Other Races, and 10% of Native Hawaiian and Other Pacific Islander (NHOPI) children lived in proximity to sites lacking a PFP designation. About 8% of Hispanic children, who may be of any race, lived in proximity to the selected sites.
- About 8% of all children in the United States in families with incomes below the poverty level lived within one mile of sites lacking a PFP designation, compared with about 5% of children above the poverty level. The proportion of children below the poverty level in proximity to the selected sites was generally greater than the proportion for those above poverty level for each race and ethnicity; the only exception to this pattern was for American

Environments and Contaminants: Contaminated Lands

- 1 Indian and Alaskan Native (AIAN) children.

Environments and Contaminants: Contaminated Lands

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- Black children account for about 15% of all children in the United States; among all children living within one mile of a selected site, about 21% were Black. Black children account for about 30% of all U.S. children in homes below poverty level; among children below poverty level living within one mile of a selected site, about 38% were Black.
- The percentages of Asian children, Hispanic children, and children of Other Races among children living close to the selected sites were also greater than the percentages of these children in the entire U.S. population, considering all incomes and considering only those in homes with incomes below poverty level.

Environments and Contaminants: Contaminated Lands

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Data Tables

Table E9: Percentage of children ages 0 to 17 years living within one mile of Superfund and Corrective Action sites that are not "Protective for People," 2009

Race / Ethnicity	All Incomes	< Poverty Level	≥ Poverty Level
All Races/Ethnicities	5.8%	7.7%	5.4%
White	4.7%	5.9%	4.6%
Black	8.1%	9.6%	7.4%
American Indian/Alaska Native	5.1%	3.7%	5.5%
Asian	8.6%	10.5%	8.3%
Native Hawaiian or Other Pacific Islander	10.4%	11.8%	10.2%
Other Races†	8.5%	9.3%	8.3%
Hispanic	8.0%	8.5%	7.8%

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DATA: U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, CERCLIS, and RCRAInfo

Table E10: Percentage of children living near selected contaminated lands* by race/ethnicity and family income, compared with children's distribution by race/ethnicity in the general U.S. population, 2009

Race / Ethnicity	Population	All Incomes	< Poverty Level
White	Children living near selected sites	55.6%	36.0%
	All children	68.6%	47.3%
Black	Children living near	21.1%	37.6%

Environments and Contaminants: Contaminated Lands

	selected sites		
	All children	15.1%	30.1%
American Indian/Alaska Native	Children living near selected sites	1.0%	0.8%
	All children	1.2%	1.7%
Asian	Children living near selected sites	5.1%	3.5%
	All children	3.4%	2.6%
Native Hawaiian or Other Pacific Islander	Children living near selected sites	0.3%	0.2%
	All children	0.2%	0.1%
Other Racest	Children living near selected sites	17.0%	21.8%
	All children	11.6%	18.1%
Hispanic	Children living near selected sites	23.5%	31.7%
	All children	17.1%	28.7%

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*Within one mile of Superfund and Corrective Action sites that are not "Protective for People."

DATA: U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, CERCLIS, and RCRAInfo

Environments and Contaminants: Contaminated Lands

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Environments and Contaminants: Contaminated Lands

1 Metadata

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Metadata for	EPA Superfund Program and the RCRA Corrective Action Program Site Information
Brief description of the data set	A list of all Superfund sites and RCRA Corrective Action sites that are not designated “Protective for People.” The list includes the site name, state in which the site is located, whether the site is a federal facility, latitude, longitude, and the acreage.
Who provides the data set?	<p>The U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Superfund Program and the RCRA Corrective Action Program provide data from two independent databases.</p> <p>Superfund site information is reported in the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Database. CERCLIS includes lists of involved parties and site status (e.g., Human Exposure Under Control, Ground Water Migration Under Control, and Site Wide Ready for Anticipated Use) and the measures Construction Completion and Final Assessment Decisions.</p> <p>Information on RCRA Corrective Action sites is maintained in the Resource Conservation and Recovery Act Information (RCRAInfo) Database. RCRAInfo includes site status (e.g., Human Exposure Under Control) among other types of data. For both programs, status designation of Human Exposure Under Control was used as the milestone to determine “Protective for People” (PFP).</p>
How are the data gathered?	<p>Acreage and latitude/longitude information in RCRAInfo is collected from a variety of sources, such as RCRA permit applications, owners or operators, or public documents. Acreage and latitude/longitude information in CERCLIS is obtained from Preliminary Assessment reports, Site Inspection reports, Records of Decision, Five Year Reviews, or other official site documents.</p> <p>Acreage in RCRAInfo refers to the entire site. In CERCLIS, there are a number of types of acreage data. The CERCLIS field labeled “property boundary acreage” was used for calculation of Indicators E9 and E10. Although not meant to serve as estimates of the contaminated acres for Superfund sites, this information is similar to the acreage in RCRAInfo for Corrective Action facilities.</p> <p>For Corrective Action facilities, updates and progress are recorded by Regional or authorized State program staff as milestones are achieved. As Superfund site information changes, the CERCLIS database is updated by EPA regional offices.</p> <p>EPA undertook a one-time effort to collect site acreage starting in 2007. These data are updated whenever more accurate information</p>

Environments and Contaminants: Contaminated Lands

Metadata for	EPA Superfund Program and the RCRA Corrective Action Program Site Information
	is obtained.
What documentation is available describing data collection procedures?	Not applicable.
What types of data relevant for children's environmental health indicators are available from this database?	Latitude, longitude, and estimated acres for contaminated sites.
What is the spatial representation of the database (national or other)?	National; each relevant site in the United States is individually identified.
Are raw data (individual measurements or survey responses) available?	Latitude/longitude and acreage are available for each site.
How are database files obtained?	<p>Requests for datasets from CERCLIS or RCRAInfo must be made to EPA offices.</p> <p>Summary information on individual Corrective Action or Superfund sites can be found at: http://www.epa.gov/osw/hazard/correctiveaction/facility/index.htm and http://cfpub.epa.gov/supercpad/cursites/srchsites.cfm respectively.</p> <p>Some of the information in CERCLIS and RCRAInfo (name, address, cleanup progress) is also available on the EPA webpages "Envirofacts" and "Cleanups in My Community," http://www.epa.gov/enviro/ and http://iaspub.epa.gov/Cleanups/.</p>
Are there any known data quality or data analysis concerns?	<p>The site latitude and longitude specify a point at the site, which could represent the location of the site entry point or of some other area within the site.</p> <p>Actual geographic boundaries of each site (or contaminated areas on each site) are not available in digital form. In absence of geographic boundaries, CERCLIS boundary acres and RCRAInfo site acreage were used to estimate entire site area, fence line to fence line. No effort was made to approximate site shape. It is not specified if all site acres are areas of suspected contamination or areas of known contamination. Thus, the area used to represent each site is larger than the area of actual, known contamination.</p> <p>The PFP performance measure reports the number of acres and sites at which there is no complete pathway for human exposures to unacceptable levels of contamination, based on current site conditions. Non-PFP sites are of three types: sites where a possible</p>

Environments and Contaminants: Contaminated Lands

Metadata for	EPA Superfund Program and the RCRA Corrective Action Program Site Information
	exposure route has been identified, sites that have not been fully assessed, or sites that have not been reviewed for the PFP measure. Thus, non-PFP sites include both sites where there is a possible route of human exposure and sites where there may be no existing exposure routes.
What documentation is available describing QA procedures?	Not applicable.
For what years are data available?	Data represent site status, including PFP designation, as of October 2009. PFP designations are not available for earlier years.
What is the frequency of data collection?	Data collection frequency varies. Information is updated as site information changes.
What is the frequency of data release?	Data are released on a yearly basis.
Are the data comparable across time and space?	The determination of PFP status for Superfund sites is slightly different from the determination for Corrective Action facilities: see <i>Interim Guidance for OSWER Cross-Program Revitalization Measures</i> , available at http://www.epa.gov/landrecycling/measureresources.htm . Acres used to describe site area are collected differently for sites in each program (see above). Procedures applied within each program will be consistent over time. Contamination level and exposure potential will vary across sites.
Can the data be stratified by race/ethnicity, income, and location (region, state, county or other geographic unit)?	This site list does not contain information on race/ethnicity or income. The data can be stratified by location, specifically by state. Additionally, the latitude and longitude are provided for each site, which allows for more exact location stratifications and for linkage to Census data on local population demographics.

Environments and Contaminants: Contaminated Lands

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2 **Methods**

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4 **Indicator**

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6 Indicator E9: Percentage of children ages 0-17 years living within one mile of Superfund and
7 Corrective Action sites that are not “Protective for People,” 2009

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9 Indicator E10: Percentage of children living near selected contaminated lands, by race/ethnicity
10 and family income, compared with children’s distribution by race/ethnicity in the general U.S.
11 population, 2009

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13 **Summary**

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15 EPA’s Office of Solid Waste and Emergency Response has compiled data on contaminated lands
16 from the RCRA Corrective Action Program and the Superfund Program. These data include the
17 latitude and longitude, site areas, and whether or not the site has been designated as “Protective
18 for People,” as of October 1, 2009. Indicators E9 and E10 present information about children
19 living within one mile of Superfund or RCRA Corrective Action sites that were not designated as
20 “Protective for People” (PFP) as of October 1, 2009. A computer mapping tool was used to
21 identify all land areas within one mile of the estimated boundary of each of these sites. Data from
22 the year 2000 U.S. Census were then used to estimate the population of children ages 0 to 17
23 years living within these areas. Indicator E9 gives the percentages of children living within one
24 mile of these selected sites, by race/ethnicity, and family income. Indicator E10 gives the
25 percentages of each race/ethnicity for children living within one mile of these selected sites and
26 the percentages of each race/ethnicity for all U.S. children, for all incomes and for children
27 below poverty.

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29 **Overview of Data Files**

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31 The following files are needed to calculate this indicator.

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- 33 • all_nonPFP_sites_7_22_2010FINAL.xls. This file is an Excel file that gives the site
34 information for all RCRA Corrective Action Program and the Superfund Program sites
35 that were not designated PFP as of October 1, 2009. This file was obtained from EPA’s
36 Office of Solid Waste and Emergency Response. The variables needed for this indicator
37 are the latitude, longitude, and the boundary acres.
- 38 • Census 2000 data for the entire United States. For each Census Block, we needed the
39 Block FIPS code, the latitude and longitude of the Census Block centroid, and the
40 populations by sex, age, and race/ethnicity for the following race/ethnicity groups: White,
41 Black, AIAN, Asian, NHOPI, Other, Two or More Races, and Hispanic. For each Census
42 Block Group, we needed the Block Group FIPS code, the populations of each
43 race/ethnicity group for ages 0 to 17, and the populations of each race/ethnicity group for
44

Environments and Contaminants: Contaminated Lands

1 ages 0 to 17 below poverty for the following race/ethnicity groups: White, Black, AIAN,
2 Asian, NHOPI, Other, Two or More Races, and Hispanic. The Block and Block Group
3 populations were summed over both sexes and all ages 0 to 17 years. The populations of
4 the Other and Two or More Races groups were also summed to give the populations for
5 the “Other Races” group. These files were obtained from Geolytics, Inc. at
6 www.geolytics.com. The same data can be downloaded from the Census Bureau at
7 http://factfinder.census.gov/servlet/DatasetMainPageServlet?_ds_name=DEC_2000_SF3
8 [U&_program=DEC&_lang=en](http://factfinder.census.gov/servlet/DatasetMainPageServlet?_ds_name=DEC_2000_SF3). For the Block population data, select Census 2000
9 Summary File 1, Tables P12A to P12H. For the Block Group population data, select
10 Census 2000 Summary File 3, Tables P145A to P145H and P159A to P159H.

11
12 Census data at the Block level were obtained using Summary File 1 data, which is a complete
13 enumeration of the year 2000 population. To estimate populations below poverty and at or above
14 poverty, Census data at the Block Group level were obtained using Summary File 3 data, which
15 are from a sample of about one sixth of the year 2000 population. To account for the missing
16 data from persons not included in the Census 2000 “long form” data used for Summary File 3,
17 the Census used the statistical method of iterative proportional fitting to weight the Block Group
18 data so that the total estimated populations in each weighting area match the Summary File 1
19 complete enumeration data for the household type, long form sampling rate, householder status,
20 and the combination of age group, sex, and race/ethnicity group. Generally, weighting areas were
21 formed of contiguous geographic units within counties and were required to have a minimum
22 sample of 400 people. Thus the total populations for the Block Groups in the Summary File 3
23 data will not exactly match the total populations for the Block Groups in the Summary File 1
24 data, but the total populations will match for the weighting areas, counties, and higher
25 geographical areas. For more details, see the Technical Documentation for Summary File 3
26 found at <http://www.census.gov/prod/cen2000/doc/sf3.pdf>.

27 28 **Calculation of Indicator**

29 30 1. Source data pull.

31
32 Obtain the Block data from the Census 2000 files for the entire United States.
33 Specifically, obtain sex by age counts for the White population, Black population, AIAN
34 population, Asian population, NHOPI population, Other population, and Two or More
35 Races populations. Also obtain the Hispanic ethnicity sex by age counts for the Block
36 population. Obtain the population counts of the same race/ethnicity groups by age from
37 the Block Group data, for all income levels, and for the populations of each race/ethnicity
38 group by age below the poverty level.

39 40 2. Aggregate Census data.

41
42 For each race/ethnicity group, sum the Block or Block Group populations over the age
43 groups 0–4, 5–9, 10–14, and 15–17, and, for Blocks, over the two sexes. Sum the
44 populations for the Other and Two or More Races groups to create the “Other Races”
45 race/ethnicity group. The Block Group populations are summed into one field for each
46 race/ethnicity group for the total population of children ages 0 to 17 years, and into

Environments and Contaminants: Contaminated Lands

1 another field for the population below poverty of children ages 0 to 17 years for each
2 race/ethnicity group.

3 4 3. Spatially select blocks that intersect the contaminated lands buffer file.

5
6 For each contaminated land site in the RCRA Corrective Action Program and the
7 Superfund Program file of sites not PFP, create circles with centers at the given latitude
8 and longitude and areas equal to the given boundary area. Increase the radius of each
9 circle by one mile to create a buffer area extending one mile beyond the circular
10 boundary. The original land area polygon (i.e., circle) based on the Excel file, and the
11 resulting one-mile buffer are dissolved into one polygon (i.e., circle). That combined
12 polygon is used to select all Block centroids that intersect the contaminated land,
13 including the buffer area. This process creates all combinations of contaminated land
14 areas with Blocks that intersect them. If two contaminated lands overlap and contain the
15 same Block centroid, then the same Block would be returned twice, once it is linked to
16 each contaminated land.

17 18 4. Create poverty level proportions from the Block Group and join them back to the Block table.

19
20 The Blocks are a smaller Census division that rolls up directly into the Block Group
21 level. Many Blocks may make up one Block Group, and Census does not release poverty
22 data at the Block level, so the proportion of children under poverty for each race/ethnicity
23 group at the Block Group level is applied to all the corresponding Blocks. For each Block
24 Group and race/ethnicity group, calculate the proportion of children below poverty as the
25 ratio of the population ages 0 to 17 years below poverty to the total population ages 0 to
26 17 years for the same race/ethnicity group.^{iv} Join the Block and Block Group tables using
27 the entire Block Group FIPS code, and the left 12 digits for the Blocks. For each Block in
28 that Block Group, calculate the number of children below poverty for each race/ethnicity
29 group by multiplying the total number of children in that race/ethnicity group and Block
30 by the Block Group proportion of children below poverty in that same race/ethnicity
31 group. For each Block in that Block Group, calculate the number of children at or above
32 poverty for each race/ethnicity group by subtracting the number of children below
33 poverty for that race/ethnicity group from the total number of children in that
34 race/ethnicity group.

35
36 Proportion of children below poverty in Block Group BG and race/ethnicity group r
37 = Number of children below poverty in Block Group BG and race/ethnicity group r /
38 Number of children in Block Group BG and race/ethnicity group r

39
40 Number of children below poverty in Block B and race/ethnicity group r

^{iv} Since the Block Group total children's populations include children with unknown poverty status as well as children below poverty and at or above poverty, the proportions of children below poverty in a Block Group are underestimated using this calculation method. In addition, since the proportions of children below poverty were higher in 2009 compared with the 2000 Census, the proportions of children below poverty in 2009 will be further underestimated. As a result, the numbers of children below poverty are underestimated and the numbers of children at or above poverty are overestimated in these indicator calculations.

Environments and Contaminants: Contaminated Lands

1 = Number of children in Block B and race/ethnicity group r
2 × Proportion of children below poverty in Block Group BG and race/ethnicity group r
3 (assuming Block B is part of Block Group BG)

4
5 Number of children at or above poverty in Block B and race/ethnicity group r
6 = Number of children in Block B and race/ethnicity group r – Number of children below
7 poverty in Block B and race/ethnicity group r

8
9 5. Aggregate the data for all Blocks in the United States.

10
11 Sum the populations over all Blocks in the United States by race/ethnicity and family
12 income.

13
14 Number of children in income group i and race/ethnicity group r =
15 Σ Number of children in income group i and race/ethnicity group r and Block B

16
17 where this sum is over all Blocks in each state (given by the first two characters in the
18 FIPS code) or across the nation.

19
20 6. Aggregate the data for all selected Blocks in the United States.

21
22 Use the result from step 3 that lists all Blocks that intersect contaminated lands. Remove
23 duplicated Blocks that intersect more than one facility's contaminated land by applying a
24 "distinct" function on the selected Block data with facility identifiers removed. This
25 returns only one instance of each selected Block. Sum the populations over all selected
26 Blocks in the United States by race/ethnicity and family income.

27
28 Number of children in income group i and race/ethnicity group r living within one mile of
29 contaminated lands =
30 Σ Number of children in income group i and race/ethnicity group r and Block B

31
32 where this sum is over all selected Blocks (counting each selected Block once only) in
33 each state (given by the first two characters in the FIPS code) or across the nation.

34
35 7. Calculate the percentages of children living within one mile of contaminated lands.

36
37 Divide the number of children living within one mile of contaminated lands by the total
38 number of children.

39
40 Percentage of children in income group i and race/ethnicity group r living within one mile
41 of contaminated lands in each state and across the nation =
42 Number of children in income group i and race/ethnicity group r living within one mile of
43 contaminated lands / Number of children in income group i and race/ethnicity group r ×
44 100%

Environments and Contaminants: Contaminated Lands

1 8. Calculate the percentages of each race/ethnicity for children living within one mile of
2 contaminated lands and for all children.

3
4 Divide the number of children of each race/ethnicity living within one mile of
5 contaminated lands by the total number of children of all races and ethnicities living
6 within one mile of contaminated lands. Divide the number of children of each
7 race/ethnicity by the total number of children of all races and ethnicities.

8
9 Percentage of children living within one mile of contaminated lands that are in
10 race/ethnicity group r in each state and across the nation =

11
12 Number of children in race/ethnicity group r living within one mile of contaminated lands
13 / Number of children living within one mile of contaminated lands $\times 100\%$

14
15 Percentage of children that are in race/ethnicity group r in each state and across the nation
16 =

17 Number of children in race/ethnicity group r / Number of children $\times 100\%$

18
19 Percentage of children in income group i that are in race/ethnicity group r =

20 Number of children in income group i and race/ethnicity group r / Number of children in
21 income group i $\times 100\%$

22
23 9. Calculate the percentages of each income group i for each race/ethnicity group r for children
24 living within one mile of contaminated lands and for all children for each state and across the
25 nation

26
27 Divide the number of children of each race/ethnicity in income group i living within one
28 mile of contaminated lands by the total number of children of all races and ethnicities in
29 income group i living within one mile of contaminated lands for each state and across the
30 nation. Divide the number of children of each race/ethnicity in income group i by the
31 total number of children of all races and ethnicities in income group i for each state and
32 across the nation.

33
34 Percentage of children in income group i living within one mile of contaminated lands
35 that are in race/ethnicity group r in each state and across the nation =

36
37 Number of children in income group i and race/ethnicity group r living within one mile of
38 contaminated lands / Number of children in income group i living within one mile of
39 contaminated lands $\times 100\%$

40
41 Percentage of children in income group i that are in race/ethnicity group r in each state
42 and across the nation =

43 Number of children in income group i and race/ethnicity group r / Number of children in
44 income group i $\times 100\%$

45 **Questions and Comments**

Environments and Contaminants: Contaminated Lands

- 1
- 2 Questions regarding these methods, and suggestions to improve the description of the methods,
- 3 are welcome. Please use the “Contact Us” link at the bottom of any page in the America’s
- 4 Children and the Environment website.
- 5

Environments and Contaminants: Contaminated Lands

Appendix – Children Living in Proximity to Selected Contaminated Lands, by State

Table A1. Children in Proximity to Selected Contaminated Lands

State	Total Children's Population	All Children	White	Black	Asian	AIAN	NHOPI	Other Races	Hispanic
USA	72,293,812	4,189,378	2,327,225	882,026	211,705	43,099	13,212	712,111	985,841
AL	1,123,422	53,743	29,230	21,824	526	251	59	1,853	1,596
AK	190,717	68,180	41,923	5,166	4,109	6,028	1,053	9,901	5,642
AZ	1,366,947	95,817	56,780	4,998	1,012	2,028	226	30,773	54,391
AR	680,369	16,044	13,494	710	436	331	< 10	1,072	889
CA	9,249,829	602,450	232,162	70,676	67,662	6,727	3,864	221,359	329,276
CO	1,100,795	89,867	59,112	9,168	1,969	1,121	285	18,212	24,422
CT	841,688	85,940	52,734	15,695	1,969	383	42	15,117	23,190
DE	194,587	12,293	7,778	3,581	176	26	< 10	729	963
DC	114,992	7,342	1,108	5,853	69	23	19	270	243
FL	3,646,340	56,368	22,967	28,305	970	252	25	3,849	4,635
GA	2,169,234	30,261	10,489	16,704	679	108	53	2,228	2,723
HI	295,767	34,743	2,370	513	16,541	46	4,058	11,215	3,520
ID	369,030	16,659	14,887	202	105	323	18	1,124	1,180
IL	3,245,451	328,677	158,068	79,738	11,627	1,630	154	77,460	124,194
IN	1,574,396	82,828	54,707	18,448	453	350	54	8,816	10,917
IA	733,638	26,064	21,163	3,015	165	154	< 10	1,559	1,648
KS	712,993	27,823	17,058	3,481	578	271	30	6,405	9,653
KY	994,818	11,650	7,967	2,278	111	86	67	1,141	1,080
LA	1,219,799	20,276	6,920	12,442	321	60	10	523	496
ME	301,238	17,423	16,258	256	187	107	15	600	291
MD	1,356,172	81,783	49,938	23,986	2,383	467	51	4,958	4,168
MA	1,500,064	130,142	88,938	8,270	7,588	711	102	24,533	28,879
MI	2,595,767	101,621	52,321	41,059	1,171	536	22	6,512	5,036
MN	1,286,894	40,278	20,010	8,439	3,301	1,934	59	6,535	5,616
MS	775,187	3,022	1,551	1,382	15	< 10	-	66	72
MO	1,427,692	90,022	42,327	39,667	2,173	390	71	5,394	4,972
MT	230,062	10,018	9,125	27	58	388	< 10	415	338
NE	450,242	59,200	38,936	12,475	602	648	51	6,488	8,077
NV	511,799	8,354	6,515	505	98	127	44	1,065	1,729
NH	309,562	8,567	7,457	198	138	30	< 10	742	937
NJ	2,087,558	199,212	120,971	35,342	12,668	689	87	29,455	49,182
NM	508,574	15,591	6,853	182	233	4,251	< 10	4,065	6,125
NY	4,690,107	333,831	213,811	51,884	21,697	3,070	175	43,194	49,103
NC	1,964,047	51,265	19,755	26,503	1,386	264	27	3,330	3,972
ND	160,849	-	-	-	-	-	-	-	-
OH	2,888,339	209,867	136,040	55,964	1,500	663	74	15,626	14,135
OK	892,360	4,639	2,808	123	15	1,023	< 10	667	386
OR	846,526	9,918	7,461	580	277	181	47	1,372	1,334

Environments and Contaminants: Contaminated Lands

State	Total Children's Population	All Children	White	Black	Asian	AIAN	NHOPI	Other Races	Hispanic
PA	2,922,221	410,328	256,878	99,582	11,763	1,049	207	40,849	48,669
RI	247,822	31,460	23,161	1,775	571	233	33	5,687	6,948
SC	1,009,641	106,499	69,164	31,567	1,925	226	37	3,580	3,588
SD	202,649	-	-	-	-	-	-	-	-
TN	1,398,521	46,898	25,779	16,918	534	185	69	3,413	2,846
TX	5,886,759	178,446	96,408	31,459	3,899	1,259	218	45,203	89,648
UT	718,698	22,274	17,082	627	276	296	95	3,898	5,373
VT	147,523	3,449	3,055	77	110	13	< 10	192	90
VA	1,738,262	68,272	36,636	20,048	4,154	219	84	7,131	7,903
WA	1,513,843	82,382	38,953	12,777	13,700	1,807	1,493	13,652	9,693
WV	402,393	7,192	6,291	553	50	< 10	< 10	288	34
WI	1,368,756	190,400	101,826	57,004	9,755	2,120	100	19,595	26,039
WY	128,873	-	-	-	-	-	-	-	-

1
2

Table A2. Children Below Poverty Level in Proximity to Selected Contaminated Lands

State	Total Children's Population	Total children below poverty and in proximity	% below poverty in proximity who are White	% below poverty in proximity who are Black	% below poverty in proximity who are Asian	% below poverty in proximity who are AIAN	% below poverty in proximity who are NHOPI	% below poverty in proximity who are Other Races	% below poverty in proximity who are Hispanic
USA	72,293,812	853,713	36.0%	37.6%	3.5%	0.8%	0.2%	21.8%	31.7%
AL	1,123,422	13,195	26.7%	70.5%	0.2%	0.0%	-	2.5%	1.9%
AK	190,717	6,196	40.6%	9.1%	12.2%	17.4%	0.6%	19.5%	10.8%
AZ	1,366,947	23,672	51.1%	4.9%	0.3%	1.9%	0.1%	41.7%	79.1%
AR	680,369	1,945	71.5%	15.2%	0.1%	2.2%	0.0%	11.1%	9.8%
CA	9,249,829	133,047	31.1%	15.9%	7.4%	0.7%	14.2%	44.7%	68.3%
CO	1,100,795	13,775	52.6%	15.2%	2.3%	1.1%	0.0%	28.8%	44.3%
CT	841,688	13,872	40.0%	25.0%	0.3%	0.2%	0.0%	34.5%	52.5%
DE	194,587	1,387	29.0%	63.0%	0.0%	0.2%	0.0%	7.8%	11.2%
DC	114,992	2,404	0.5%	98.6%	0.1%	0.0%	0.0%	0.8%	0.3%
FL	3,646,340	16,424	19.8%	74.9%	0.9%	0.0%	0.0%	4.4%	6.2%
GA	2,169,234	7,292	20.3%	70.1%	2.2%	0.2%	0.0%	7.1%	8.5%
HI	295,767	4,094	6.9%	0.2%	28.0%	0.1%	15.7%	36.8%	17.8%
ID	369,030	2,733	88.5%	0.7%	0.2%	2.1%	0.0%	8.5%	9.5%
IL	3,245,451	71,147	28.7%	45.3%	2.7%	0.1%	0.2%	23.2%	37.6%
IN	1,574,396	20,077	50.3%	38.1%	0.2%	0.0%	0.0%	11.4%	13.2%
IA	733,638	4,741	63.2%	27.9%	0.6%	0.1%	0.0%	8.2%	5.5%
KS	712,993	5,192	46.8%	22.8%	1.2%	0.3%	0.0%	28.8%	42.5%
KY	994,818	1,851	71.0%	24.2%	0.8%	0.0%	0.0%	3.9%	2.4%
LA	1,219,799	7,791	13.2%	84.8%	0.8%	0.0%	0.0%	1.1%	1.1%
ME	301,238	2,559	94.9%	1.0%	0.3%	0.7%	0.0%	3.1%	0.4%
MD	1,356,172	10,841	35.7%	58.3%	1.1%	0.2%	0.0%	4.8%	3.5%
MA	1,500,064	26,571	48.8%	8.8%	7.6%	0.3%	0.1%	34.4%	42.4%
MI	2,595,767	23,523	28.7%	64.5%	0.3%	0.3%	0.0%	6.2%	3.7%
MN	1,286,894	8,853	21.4%	40.0%	12.3%	6.2%	0.0%	20.1%	15.4%

Environments and Contaminants: Contaminated Lands

State	Total Children's Population	Total children below poverty and in proximity	% below poverty in proximity who are White	% below poverty in proximity who are Black	% below poverty in proximity who are Asian	% below poverty in proximity who are AIAN	% below poverty in proximity who are NHOPI	% below poverty in proximity who are Other Races	% below poverty in proximity who are Hispanic
MS	775,187	572	31.7%	62.5%	0.0%	0.0%	0.0%	5.8%	3.5%
MO	1,427,692	25,707	25.9%	66.8%	1.2%	0.1%	0.0%	6.0%	4.3%
MT	230,062	1,811	87.1%	0.3%	0.9%	7.1%	0.0%	4.6%	2.3%
NE	450,242	11,377	40.9%	44.8%	0.1%	0.8%	0.0%	13.5%	14.6%
NV	511,799	1,365	66.9%	12.8%	0.0%	1.5%	0.0%	18.8%	24.8%
NH	309,562	825	78.4%	2.2%	0.4%	0.0%	0.0%	19.1%	32.0%
NJ	2,087,558	28,696	35.0%	36.7%	3.1%	0.1%	0.0%	25.1%	39.5%
NM	508,574	3,821	27.1%	0.8%	0.0%	38.0%	0.0%	34.0%	53.2%
NY	4,690,107	55,938	44.9%	30.9%	5.3%	0.7%	0.0%	18.2%	21.3%
NC	1,964,047	12,832	17.4%	75.8%	1.1%	0.2%	0.0%	5.6%	7.9%
ND	160,849	-	-	-	-	-	0.0%	-	-
OH	2,888,339	51,598	45.8%	45.2%	0.2%	0.1%	-	8.7%	7.9%
OK	892,360	1,251	53.6%	3.8%	0.1%	27.2%	0.0%	15.2%	8.5%
OR	846,526	2,102	69.4%	15.9%	0.0%	1.1%	0.5%	13.3%	16.6%
PA	2,922,221	84,155	35.2%	44.5%	2.4%	0.1%	0.0%	17.7%	23.4%
RI	247,822	6,392	51.0%	12.5%	1.4%	0.3%	0.0%	34.7%	49.0%
SC	1,009,641	16,765	30.0%	66.0%	0.2%	0.0%	0.0%	3.8%	3.9%
SD	202,649	-	-	-	-	-	0.0%	-	-
TN	1,398,521	8,712	27.6%	66.0%	0.3%	0.1%	-	6.0%	4.9%
TX	5,886,759	45,645	45.0%	25.7%	0.8%	0.3%	0.0%	28.2%	61.5%
UT	718,698	3,346	61.2%	5.4%	1.1%	2.5%	0.0%	29.7%	48.9%
VT	147,523	376	87.8%	0.0%	4.5%	0.0%	0.0%	7.7%	1.5%
VA	1,738,262	9,461	27.5%	59.0%	2.9%	0.0%	0.0%	10.5%	10.9%
WA	1,513,843	13,452	28.6%	25.2%	18.3%	2.4%	1.5%	24.5%	15.5%
WV	402,393	2,004	83.6%	12.5%	0.0%	0.0%	0.0%	3.7%	0.2%
WI	1,368,756	42,328	23.0%	59.6%	5.0%	0.9%	0.0%	11.5%	16.8%
WY	128,873	-	-	-	-	-	0.0%	-	-

1
2

Table A3. All U.S. Children Below Poverty Level

State	Total Children's Population	Total Children Below Poverty (0-17)	% below poverty who are White	% below poverty who are Black	% below poverty who are Asian	% below poverty who are AIAN	% below poverty who are NHOPI	% below poverty who are Other Races	% below poverty who are Hispanic
USA	72,293,812	11,079,537	47.3%	30.1%	2.6%	1.7%	0.1%	18.1%	28.7%
AL	1,123,422	226,937	36.1%	61.4%	0.3%	0.3%	0.0%	1.9%	2.2%
AK	190,717	20,667	40.6%	3.7%	4.1%	38.6%	0.6%	12.4%	5.6%
AZ	1,366,947	243,101	48.2%	4.1%	0.5%	15.7%	0.0%	31.4%	56.5%
AR	680,369	138,958	52.6%	41.6%	0.2%	0.6%	0.1%	5.0%	6.2%
CA	9,249,829	1,662,650	38.0%	11.1%	7.6%	1.0%	0.2%	42.2%	63.0%
CO	1,100,795	113,583	59.4%	8.5%	1.7%	1.6%	0.0%	28.9%	48.6%
CT	841,688	80,304	42.5%	27.6%	1.1%	0.2%	0.0%	28.7%	41.5%
DE	194,587	21,919	37.7%	50.5%	0.9%	0.1%	0.0%	10.8%	14.3%
DC	114,992	33,871	3.8%	90.6%	0.9%	0.1%	0.0%	4.7%	7.6%

Environments and Contaminants: Contaminated Lands

State	Total Children's Population	Total Children Below Poverty (0-17)	% below poverty who are White	% below poverty who are Black	% below poverty who are Asian	% below poverty who are AIAN	% below poverty who are NHOPI	% below poverty who are Other Races	% below poverty who are Hispanic
FL	3,646,340	592,987	47.3%	41.6%	0.8%	0.2%	0.0%	10.0%	24.0%
GA	2,169,234	346,726	30.9%	62.2%	0.9%	0.1%	0.0%	5.9%	8.2%
HI	295,767	38,205	12.0%	1.0%	17.0%	0.1%	25.1%	44.9%	18.4%
ID	369,030	48,862	81.3%	0.3%	0.2%	2.6%	0.0%	15.5%	22.8%
IL	3,245,451	430,887	37.9%	45.5%	1.6%	0.1%	0.0%	14.9%	23.2%
IN	1,574,396	175,830	64.9%	28.0%	0.4%	0.1%	0.0%	6.6%	7.1%
IA	733,638	73,108	80.1%	9.8%	1.0%	0.6%	0.0%	8.4%	8.0%
KS	712,993	78,161	64.8%	17.2%	1.2%	1.0%	0.0%	15.9%	19.1%
KY	994,818	193,606	80.8%	16.4%	0.2%	0.1%	0.0%	2.6%	1.5%
LA	1,219,799	306,698	25.6%	71.8%	0.8%	0.4%	0.0%	1.3%	1.5%
ME	301,238	37,352	94.0%	1.3%	0.9%	1.2%	0.0%	2.5%	1.2%
MD	1,356,172	131,880	31.2%	61.0%	2.0%	0.1%	0.0%	5.6%	5.8%
MA	1,500,064	164,449	53.9%	15.4%	5.2%	0.2%	0.0%	25.2%	32.4%
MI	2,595,767	331,320	47.3%	43.4%	1.1%	0.6%	0.0%	7.7%	6.5%
MN	1,286,894	109,371	57.0%	17.1%	9.9%	4.8%	0.0%	11.2%	9.5%
MS	775,187	199,001	23.8%	74.6%	0.3%	0.4%	0.0%	0.8%	0.9%
MO	1,427,692	206,814	62.8%	32.0%	0.5%	0.3%	0.0%	4.5%	3.5%
MT	230,062	40,556	72.8%	0.2%	0.3%	22.2%	0.0%	4.6%	3.5%
NE	450,242	50,804	68.6%	15.6%	0.6%	3.2%	0.0%	11.9%	15.2%
NV	511,799	65,663	55.2%	16.5%	1.5%	2.1%	0.1%	24.5%	42.9%
NH	309,562	21,495	91.5%	1.5%	1.2%	0.1%	0.0%	5.7%	6.9%
NJ	2,087,558	214,780	39.5%	36.5%	3.3%	0.1%	0.0%	20.6%	32.8%
NM	508,574	119,919	46.0%	1.7%	0.3%	20.6%	0.0%	31.4%	61.2%
NY	4,690,107	867,708	39.6%	31.5%	4.6%	0.5%	0.0%	23.8%	34.4%
NC	1,964,047	291,692	38.7%	50.7%	0.7%	2.0%	0.0%	7.8%	9.9%
ND	160,849	20,490	69.5%	0.8%	0.2%	25.4%	0.0%	4.2%	2.9%
OH	2,888,339	383,007	56.8%	37.1%	0.5%	0.1%	0.0%	5.5%	3.9%
OK	892,360	162,159	52.6%	18.5%	0.5%	14.3%	0.0%	14.1%	11.6%
OR	846,526	112,963	71.8%	3.5%	1.8%	2.0%	0.1%	20.9%	24.9%
PA	2,922,221	393,789	56.8%	31.5%	1.8%	0.1%	0.0%	9.9%	12.2%
RI	247,822	38,369	51.5%	13.5%	3.5%	0.9%	0.0%	30.5%	39.5%
SC	1,009,641	177,182	29.9%	66.9%	0.2%	0.2%	0.0%	2.7%	3.0%
SD	202,649	32,207	52.4%	0.7%	0.1%	42.5%	0.0%	4.3%	2.3%
TN	1,398,521	233,733	55.2%	40.9%	0.4%	0.1%	0.0%	3.5%	3.0%
TX	5,886,759	1,134,042	53.8%	18.3%	1.1%	0.3%	0.0%	26.5%	63.0%

1