General Accounting Office

Siting Of Hazardous Waste Landfills And Their Correlation With Racial And Economic Status Of Surrounding Communities

This report provides information on the racial and economic characteristics of communities surrounding four hazardous waste landfills in three southeastern States. It also describes Federal criteria for siting landfills and provides data on public participation and how the Environmental Protection Agency's (EPA's) proposed hazardous waste facility permit changes will affect it.

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RESOURCES, COMMUNITY,
AND ECONOMIC DEVELOPMENT
DIVISION

B-211461

The Honorable James J. Florio
Chairman, Subcommittee on Commerce,
Transportation and Tourism
Committee on Energy and Commerce
House of Representatives

The Honorable Walter E. Fauntroy
House of Representatives

By letter dated December 16, 1982, you requested us to determine the correlation between the location of hazardous waste landfills and the racial and economic status of the surrounding communities. As agreed with your offices, we focused our review on offsite landfills--those not part of or contiguous to an industrial facility--found in the eight southeastern States comprising the Environmental Protection Agency's (EPA's) Region IV. You also asked for information on site location standards, public participation requirements for siting offsite hazardous waste landfills, and EPA's class permit proposal which addresses the permitting, as a group, less complex waste management facilities such as storage tanks.

We found that:

--There are four offsite hazardous waste landfills in Regions IV's eight States. Blacks make up the majority of the population in three of the four communities where the landfills are located. At least 26 percent of the population in all four communities have income below the poverty level and most of this population is Black.

--The determination of where a hazardous waste landfill will be located is currently a State responsibility. Federal regulations, effective in January 1983, require that selected sites meet minimal location standards. EPA has just begun its review process to determine if sites meet these standards.

--Federal legislation requires public participation in the hazardous waste landfill permit process except for the approval of disposal for polychlorinated biphenyls (PCBs), which are regulated under separate legislation that does not provide for public participation. Because of delays in issuing final regulations three of the four landfills in Region IV have not yet undergone the final permit

process where public participation is required. The fourth is a PCB landfill and even though not subject to Federal requirements, had undergone this process. Only one site in the Nation (in Region VI) has been granted a final hazardous waste landfill permit and had been subjected to the public participation process.

--EPA's class permit proposal for regulating facilities, such as tanks or containers that use proven technology, would change public participation at the local level by limiting the issues to be discussed. However, class permits would not apply to landfills.

OBJECTIVE, SCOPE, AND METHODOLOGY

Our objective was to determine the correlation between the location of hazardous waste landfills and the racial and economic status of surrounding communities. As agreed with your office, we reviewed offsite hazardous waste landfills in EPA's Region IV (consisting of Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee).

We reviewed files and interviewed responsible officials at EPA and the Bureau of the Census headquarters in Washington, D.C. We also performed work at the EPA Regional Office in Atlanta. Because the Warren County PCB landfill was specifically referred to in the request letter and was the newest site in Region IV, we also did work at North Carolina's Department of Crime Control and Public Safety (the State's lead agency for PCB cleanup and disposal) and the Department of Human Resources in Raleigh. To obtain local information, we interviewed Warren County health officials. We also met in Atlanta with an official of the Southern Christian Leadership Conference to discuss racial issues surrounding the Warren County site selection.

To determine the location of offsite landfills in Region IV, we reviewed files at EPA headquarters and its Region IV office and interviewed officials by telephone in all eight States. We identified four offsite hazardous waste landfills--Chemical Waste Management, Sumter County, Alabama; Industrial Chemical Company, Chester County, South Carolina; SCA Services, Sumter County, South Carolina; and the Warren County PCB landfill, North Carolina.

To obtain information on communities surrounding these landfills, Bureau of the Census, Department of Commerce, officials located the sites on maps that delineated census areas and provided 1980 racial and economic data for census areas in which the landfills are located and other census areas that

have borders within about 4 miles. Bureau of the Census officials also provided similar data for the county and State where the landfills are located.

As agreed with your office we did not verify Bureau of the Census supplied data nor determine why the sites were selected, the population-mix of the area when the site was established, the distribution of the population around the landfill, nor how the communities' racial and economic status compared to others in the State. Also, we did not determine whether any of these sites pose a risk to the surrounding communities.

We also reviewed the landfill siting and public participation requirements of the Resources Conservation and Recovery Act of 1976 and the Toxic Substances Control Act of 1976. We reviewed EPA's headquarters public participation files but cannot judge the public participation process for landfill permits because only one final RCRA landfill permit had been issued.

At your request, we did not obtain agency coments. However, the matters presented in this report were discussed with agency officials and their comments are incorporated, where appropriate.

Our work was conducted from December 1982 to April 1983. Except as noted above, we made our review in accordance with generally accepted government audit standards.

RACIAL AND ECONOMIC DATA

Based on 1980 census data at three of the four sites--Chemical Waste Management, Industrial Chemical Company, and the Warren County PCB Landfill--the majority of the population in census areas (areas within a county such as a township or subdivision) where the landfills are located is Black. Also, at all four sites the Black population in the surrounding census areas has a lower mean income than the mean income for all races combined and represents the majority of those below poverty level (the poverty level was $7,412 for a family of four in the 1980 census).

1980 Census Population, Income, and Poverty Data
For Census Areas Where Landfills Are Located

Landfill	Population		Mean family income		Population below poverty level		
	Number	Percent Black	All races	Blacks	Number	Percent	Percent Black
Chemical Waste Mgmt.	626	90	$11,198	$10,752	265	42	100
SCA Services	849	38	16,371	6,781	260	31	100
Industrial Chemical Co.	728	52	18,996	12,941	188	26	92
Warren County PCB Landfill	804	66	10,367	9,285	256	32	90

Appendix I contains maps and related population, income, and poverty data for communities surrounding the four landfills.

FEDERAL SITE LOCATION STANDARDS

The determination of where a hazardous waste landfill will be located is currently a State responsibility, but Federal legislation requires that selected sites meet minimal location standards. These location standards are contained in the Resources Conservation and Recovery Act's (RCRA's) implementing land disposal regulations for the permitting[1] of hazardous waste landfills except those used to dispose of PCBs. These land disposal location regulations, effective in January 1983, pertain to a site's proximity to earthquake fault zones and floodplains. In February 1983, EPA started its review process to determine if hazardous waste landfills meet these standards.

PCB landfill location regulations--implementating the Toxic Substances Control Act (TSCA)--require areas (1) with silt and clay soils, (2) in terrain of low to moderate relief, (3) above the historical groundwater table, and (4) protected from floods. (See app. II.)

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[1]RCRA requires that any company owning or operating a hazardous waste landfill must be permitted. The act provides procedures to allow landfills that were in operation on November 19, 1980, to continue to operate under "interim status" until a final permit is issued.

PUBLIC PARTICIPATION

Before permitting hazardous waste landfills under RCRA, EPA is required to accept and respond to comments, hold public hearings upon written request, and notify the public of available appeal procedures. However, these procedures do not apply to the PCB disposal approval process. RCRA landfill permitting, including assuring opportunity for public participation, is a Federal responsibility. Because of delays in issuing final regulations, as of April 30, 1983, only one landfill (in Region VI) had been issued a permit and as required EPA provided for public participation.

CLASS PERMIT PROPOSAL

You also asked for information on how EPA's class permit proposal will impact on the public participation process. EPA is in the early stages of formulating class permit regulations and plans to publish proposed regulations in late October 1983.

Current RCRA regulation treats every hazardous waste management facility as being unique and highly complex. However, unlike landfills some facilities such as tanks or containers are neither unique nor complex. EPA believes such facilities employ relatively simple and well-proven technology which varies little with the locality and can be regulated in groups. The class permit concept, as currently outlined, would change public participation at the local level by limiting the issues to be discussed. The class permit proposal will not change public participation at the national level. For example, local public participation is to focus on whether (1) the facility is in the specified class, (2) the applicant can comply with the permit conditions, and (3) the additional site-specific factors are considered. (See app. II.)

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A more detailed discussion of our information is contained in appendixes I and II.

As arranged with your office, unless you publicly release its contents earlier, we will make this report available to other interested parties 14 days after the issue date. At that time copies of the report will be sent to appropriate congressional committees and State delegations; the Administrator, Environmental Protection Agency; the Secretary, Department of Commerce; the Director, Office of Management and Budget; and the Governors of North Carolina, South Carolina, and Alabama.

J. Dexter Peach
Director

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ABBREVIATIONS

EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
PCB	polychlorinated biphenyls
RCRA	Resources Conservation and Recovery Act
TSCA	Toxic Substances Control Act

RACIAL AND ECONOMIC DATA

ON FOUR HAZARDOUS WASTE SITES

CHEMICAL WASTE MANAGEMENT

In 1977 Chemical Waste Management established a commercial hazardous waste treatment, storage, and disposal facility. The facility is located in western Alabama on State Highway 17 in Sumter County. The landfill has RCRA interim status and is approved by EPA for PCB disposal.

As shown in figure 1 on the following page, the landfill is located in area A which has a 90-percent Black population. Also, Blacks represent 100 percent of the population that is below the poverty level.

Areas that have borders within 4 miles of the site are area B, still in Sumter County, which is 84 percent Black and area C, in Mississippi, which is 69 percent Black. In these areas, Blacks make up over 93 percent of those below the poverty level.

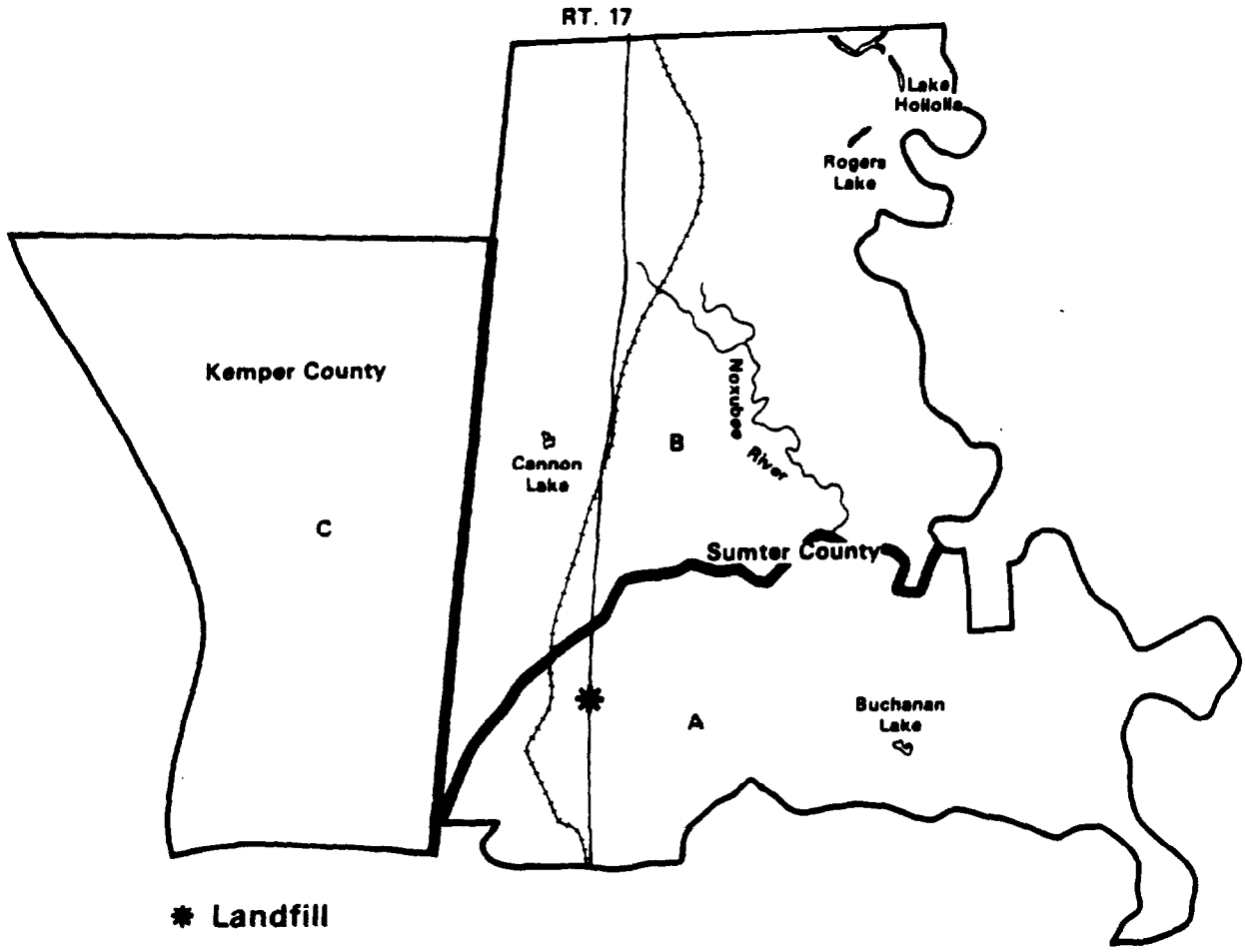
Chemical Waste Management
1980 Census Data

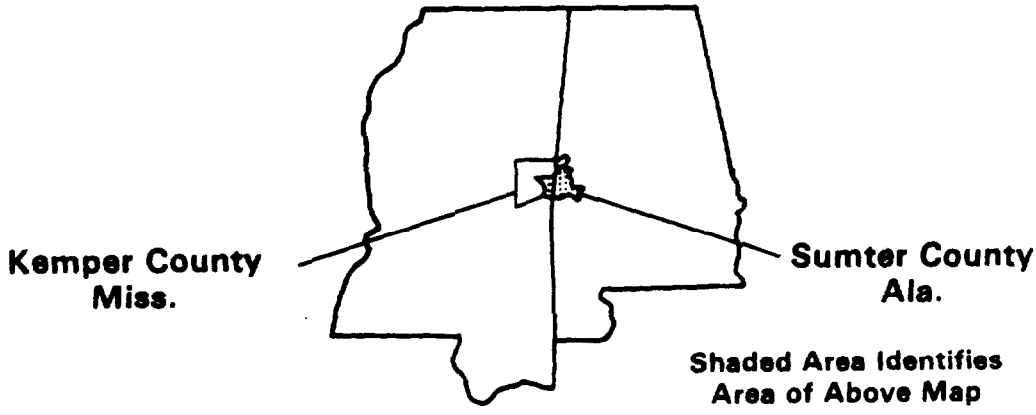
	Population		Mean family income		Population below poverty level		
Location	Number	Percent Black	All races	Blacks	Number	Percent	Percent Black
Alabama	3,893,888	26	$19,199	$12,655	719,905	19	52
Sumter Co.	16,908	69	16,573	11,015	5,508	33	93
Area A	626	90	11,198	10,752	265	42	100
Area B	1,335	84	12,025	9,375	620	46	96
Mississippi	2,520,638	35	17,722	11,424	587,217	24	65
Kemper Co.	10,148	54	13,418	9,428	3,757	37	80
Area C	1,060	69	14,257	9,041	532	50	93

Note: Areas represent subdivisions of political jurisdictions designated by census for data gathering.

FIGURE 1

Chemical Waste Management, Sumter County, Ala.





SOURCE: Based on Bureau of the Census maps that delineate 1980 census areas.

SCA SERVICES

In 1977 SCA Services established a commercial hazardous waste treatment, storage, and disposal facility. The facility is located in Sumter County near Lake Marion and close to Clarendon and Calhoun Counties, South Carolina. The facility has RCRA interim status.

As shown in figure 2 on the following page, the landfill is located in area A with a 38-percent Black population. However, in areas that have borders within 4 miles--B, C, and D--Blacks make up the majority of the population. In all four areas Blacks represent 84 percent or more of those below the poverty level.

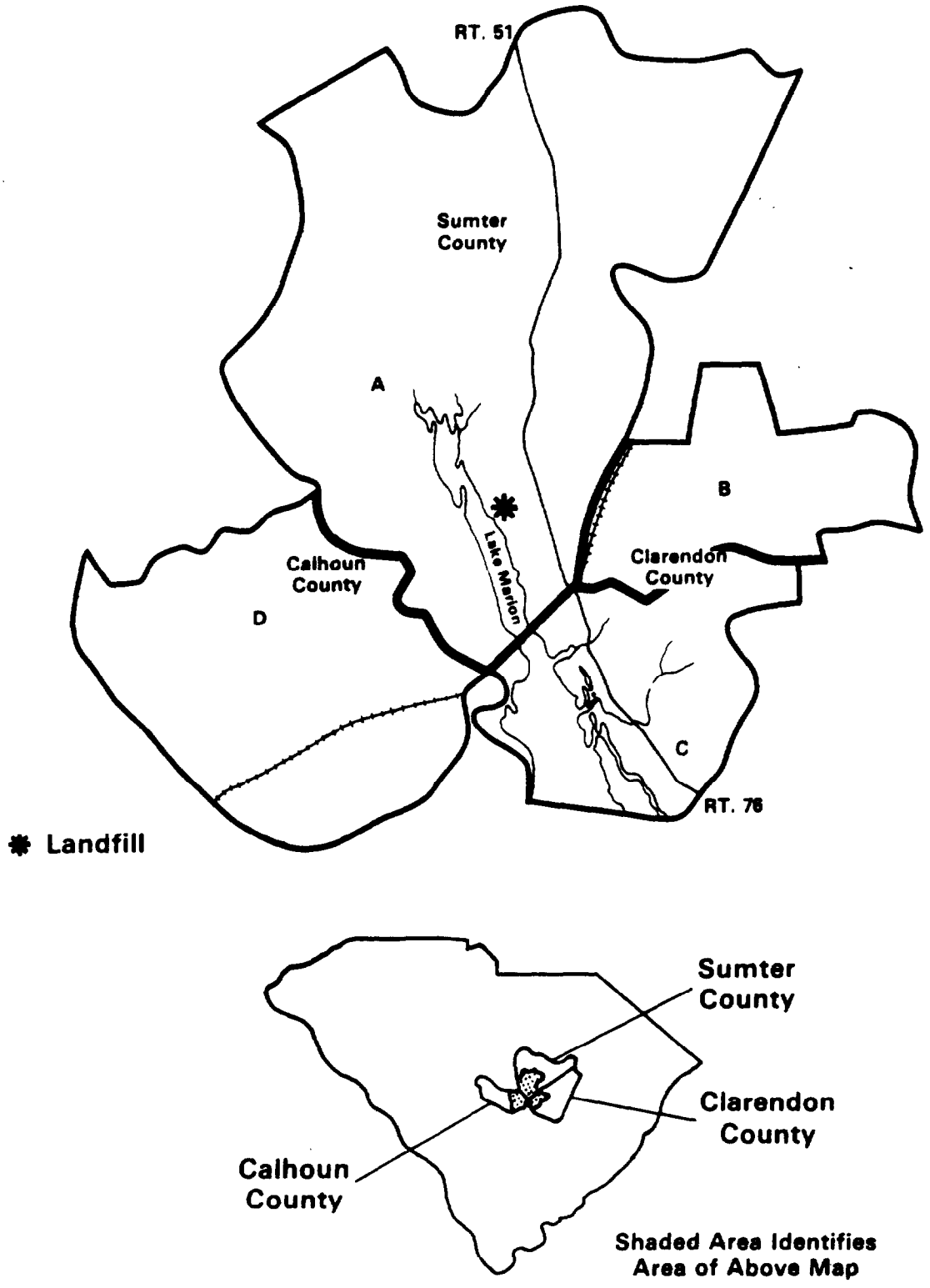
SCA Services, Inc.,
1980 Census Data

	Population		Mean family income		Population below poverty level		
Location	Number	Percent Black	All races	Blacks	Number	Percent	Percent Black
South Carolina	3,121,820	30	$19,582	$13,508	500,363	16	61
Sumter Co.	88,243	44	16,424	10,978	20,029	23	81
Area A	849	38	16,371	6,781	260	31	100
Claredon Co.	27,464	57	15,202	11,219	7,985	29	81
Area B	607	92	11,203	11,814	244	40	84
Area C	484	74	12,192	11,385	167	35	96
Calhoun Co.	12,206	55	16,991	12,510	2,683	22	85
Area D	724	69	19,282	11,066	216	30	91

Note: Areas represent subdivisions of political jurisdictions designated by census for data gathering.

FIGURE 2

SCA Services, Sumter County, S.C.



SOURCE: Based on Bureau of the Census maps that delineate 1980 census areas.

INDUSTRIAL CHEMICAL COMPANY

In 1972 the Industrial Chemical Company established an offsite landfill to dispose of its own hazardous waste. The site is located in Chester County on U.S. Highway 21 near York and Lancaster Counties, South Carolina. In 1982 the State prohibited the company from disposing of any more waste in the landfill. During our review the site, however, still had interim status under RCRA.

As shown in figure 3 on the following page, the landfill is located in area A, which has a 52-percent Black population, and Blacks represent 92 percent of those below the poverty level. Areas that have borders within 4 miles show that the Black population ranges from 30 percent to 56 percent. The number of Blacks below the poverty level range from 24 percent in area E to 100 percent in area B.

Industrial Chemical Co., 1980 Census Data

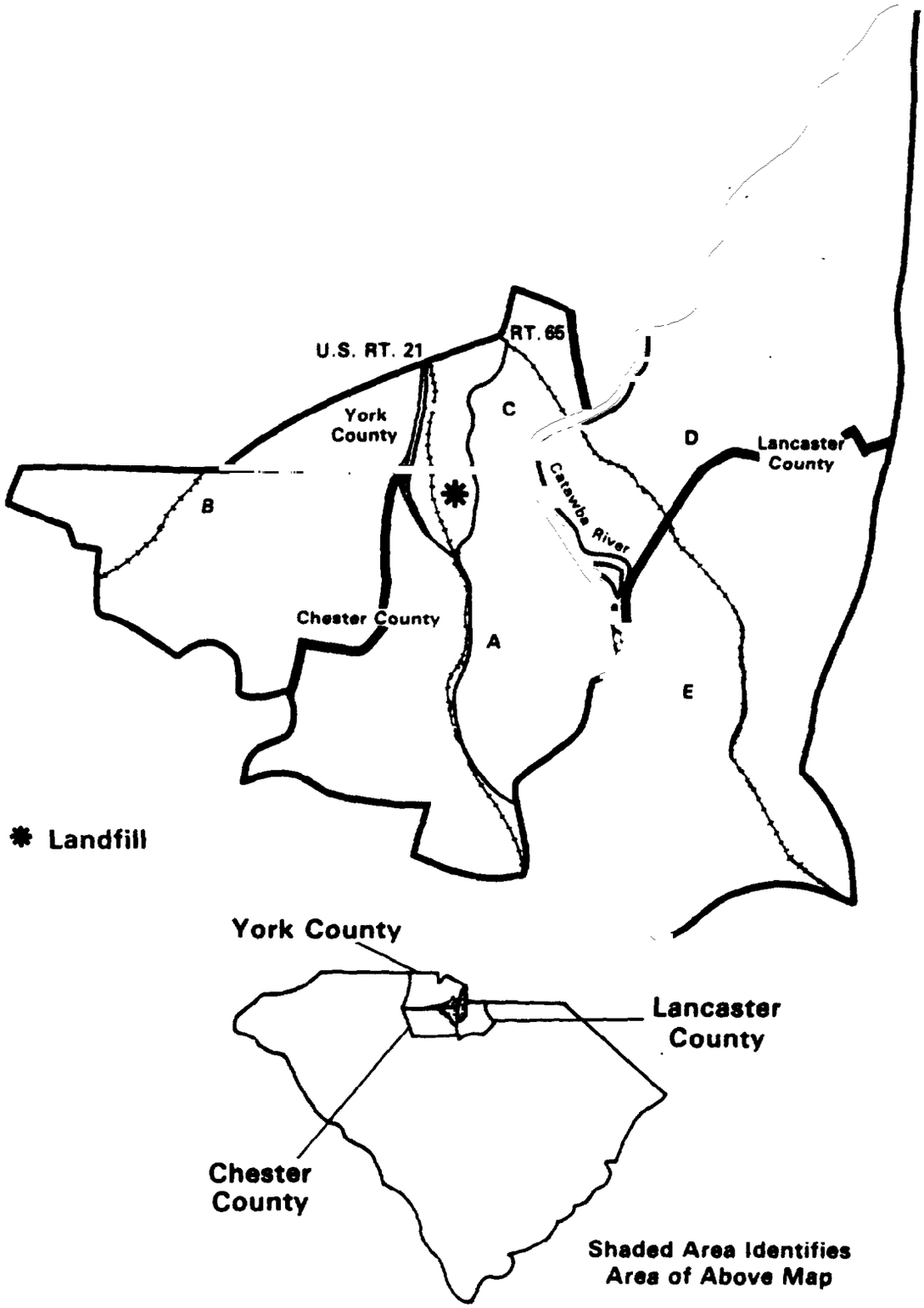
	Population		Mean Family Income		Population Below Poverty Level		
Location	Number	Percent Black	All races	Blacks	Number	Percent	Percent Black
South Carolina	3,121,820	30	$19,582	$13,508	500,363	16	61
Chester Co.	30,148	39	18,153	14,221	4840	16	70
Area A	728	52	18,996	12,941	188	26	92
Area B	922	30	21,430	17,988	35	4	100
York Co.	106,720	22	21,530	15,383	11,407	11	50
Area C	420	41	18,946	13,200	35	8	a/
Lancaster Co.	53,361	24	19,372	14,880	5,930	11	49
Area D	923	56	18,307	15,945	148	16	79
Area E	1,125	30	17,535	17,240	136	12	24

[a]Information not available from census.

Note: Areas represent subdivisions of political jurisdictions designated by census for data gathering.

FIGURE 3

Industrial Chemical Company, Chester County, S.C.



SOURCE: Based on Bureau of the Census maps that delineate 1980 census areas.

WARREN COUNTY PCB LANDFILL

The Warren County landfill was established to dispose of PCBs that were illegally dumped during 1978 along 241 miles of North Carolina roads. The site is located in Shocco Township in Warren County, N.C. In 1979 EPA approved the site for PCB disposal.

As shown in figure 4 on the following page, Shocco Township and three of the five areas that have borders within 4 miles--Sandy Creek, Warrenton, and Fork Townships--have a majority Black population and Blacks make up the majority of those below the poverty level. The population of Judkins Township is 48 percent Black and Fishing Creek Township is 44 percent Black and 47 percent American Indian. The American Indians make up 49 percent of those below poverty level.

PCB Landfill
1980 Census Data

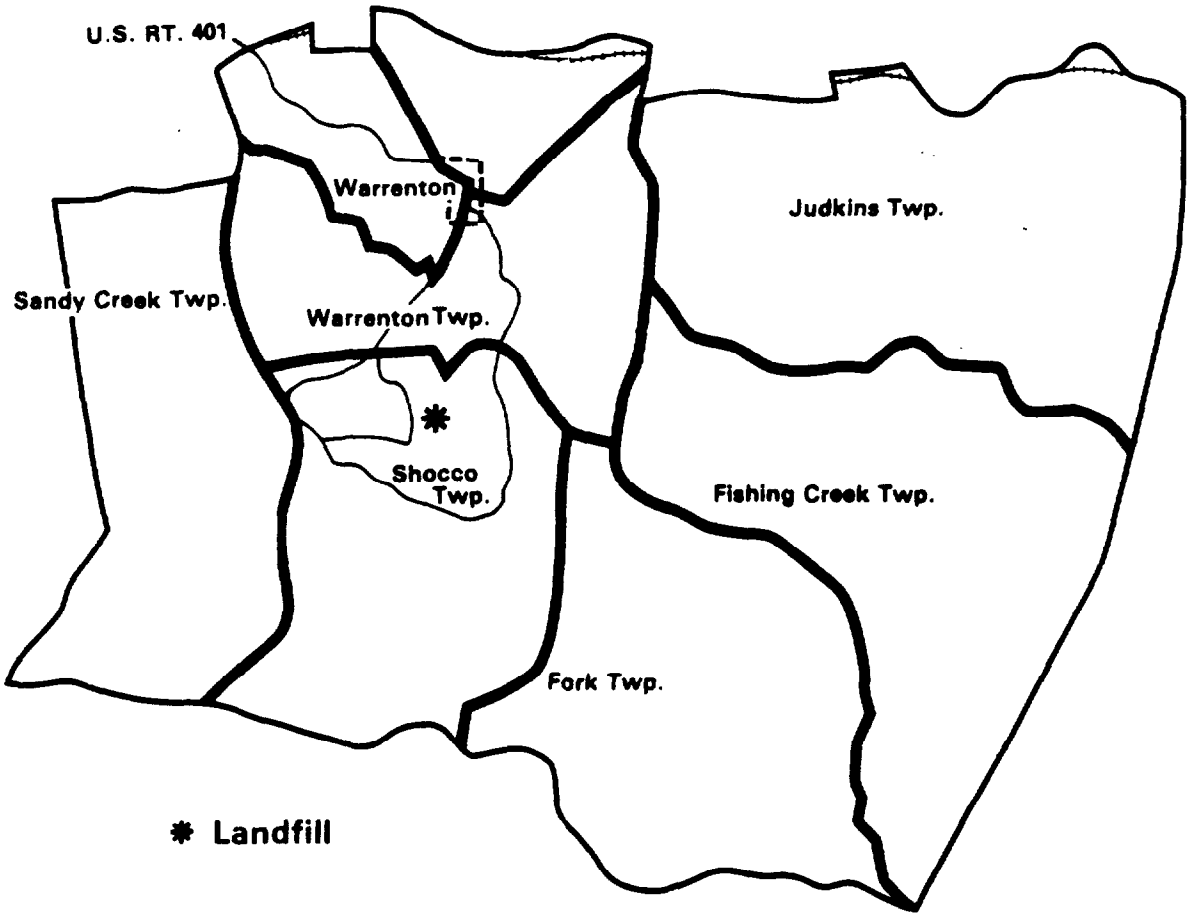
Location	Population		Mean family income		Population below poverty level		
	Number	Percent Black	All races	Blacks	Number	Percent	Percent Black
North Carolina	5,881,766	22	$19,513	$13,648	839,950	14	46
Warren Co.	16,232	60	15,053	11,463	4,880	30	80
Shocco Township	804	66	10,367	9,285	256	32	90
Sandy Creek Township	1,331	70	14,009	11,806	545	41	91
Warrenton Township	4,596	61	15,812	11,746	1,360	30	90
Fishing Creek Township	1,285	44	11,454	10,296	425	33	39
Fork Township	556	81	10,897	10,378	179	32	81
Judkins Township	850	48	35,329	a/	259	31	a/

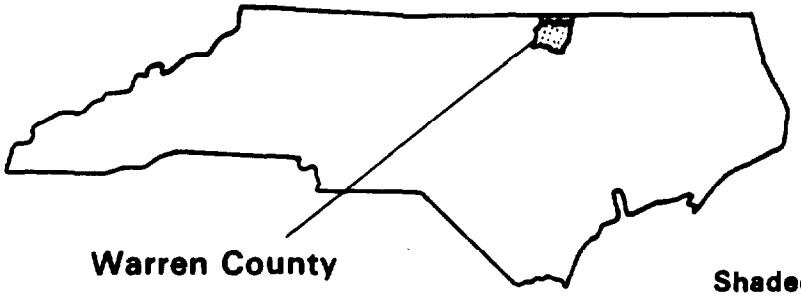
[a]Information not available from census.

Note: Warren County census data was available by Township.

FIGURE 4

PCB Landfill, Warren County, N.C.





Shaded Area Identifies Area of Above Map

SOURCE: Based on Bureau of the Census maps that delineate 1980 census areas.

The State considered several options for disposing of the PCB-contaminated soil including incineration, transportation to an existing landfill in Alabama, treatment along the roads, or development of a landfill within North Carolina. However, EPA had not approved the incineration and treatment-in-place processes, and the State had determined that transportation to Alabama was too costly. Therefore, the State chose the development of a landfill in North Carolina as the best available alternative.

After the State evaluated over 90 locations, it determined that Warren County was the best available site. The State considered available tracts of State-owned land and those offered by private individuals, corporations, and county governments. The State used the TSCA landfill requirements for PCBs and its own siting criteria to screen and evaluate possible locations. The PCB regulations require that a landfill be in an area of low to moderate relief, with silt and clay soils, and above the historical groundwater table. The State wanted the landfill to be in an area (1) bounded by the counties where the PCB spills had occurred, (2) with a minimum area of 16 acres, (3) isolated from highly populated areas, and (4) accessible by road with a deeded right-of-way.

Most of the 90 proposed sites were eliminated, according to a State-prepared Environmental Impact Statement (EIS), because they did not meet one or a combination of the evaluation standards. Although 11 of the remaining sites were considered to have a high probability for meeting the PCB landfill criteria, 9 were rejected after the State performed detailed subsurface investigations. The remainig two sites were in Chatham and Warren Counties.

The State evaluated Chatham and Warren County sites essentially equivalent. However, the Chatham site was publicly owned and the county would not sell it, and according to the State Attorney General, the State did not have the power of eminent domain to take over the land. The Warren County site was selected for the landfill because it met the evaluative criteria and was available.

The Warren County landfill is located on 5 acres in the middle of a 142-acre area. The acreage around the landfill serves as a buffer zone. According to the EIS, the landfill site met PCB landfill requirements for topography, hydrology, and soil conditions and the additional State criteria including size, isolation from population centers, access, and location in an area of the PCB spill.

At the State's initiative, a public hearing was held in Warren County on January 4, 1979, to inform the public of the site's selection and to discuss public concerns. Although EPA approved the site in June 1979, construction was delayed for 3 years because of two court suits brought against the State to prevent the site from being used as a PCB landfill. Both suits were settled in favor of the State, and construction of the landfill began on June 26, 1982.

A final attempt to stop the landfill occurred on July 2, 1982. At that time, the local chapter of the National Association for the Advancement of Colored People requested, on the basis of racial discrimination, a preliminary injunction in a Federal district court to prohibit the placement of PCBs in Warren County. The court denied the request and stated in its decision that race was not an issue because throughout all the Federal and State hearings and private party suits, it was never suggested that race was a motivating factor in the location of the landfill. The court went on to state that various criteria and standards were used in selecting the sites, and Warren County was chosen mainly because of site availability.

FEDERAL LOCATION STANDARDS, PUBLIC PARTICIPATION REQUIREMENTS, AND CLASS PERMITS

RCRA and TSCA do not regulate landfill site selection but require that selected sites meet certain location standards. RCRA requires that the public have the opportunity to participate in the landfill permitting process. TSCA makes no provisions for public participation in its regulation governing approval for PCB disposal. As of May 1, 1983, only one landfill has completed this process. Unlike landfills, certain hazardous waste facilities are not unique or complex, and EPA wants to simplify its permit process.

FEDERAL LOCATION STANDARDS

RCRA requires that any company owning or operating a hazardous waste landfill must be permitted. The act authorized landfills that were in operation on November 19, 1980, to continue to operate under "interim status" until a final permit is issued. Final regulations for landfills became effective on January 26, 1983. However, during our review only one final landfill permit had been issued and EPA anticipates that it may take about 8 years to permit all landfills.

Because of PCB's potential for environmental harm, the Congress also passed in 1976, a special provision to control PCBs under TSCA. Among other things, the act required EPA to prescribe acceptable methods for PCB disposal. EPA's regulations implementing TSCA provide specific criteria for approval for PCB disposal. PCBs were the only chemical that the Congress identified for special action under TSCA.

RCRA's January 26, 1983, land disposal regulations provide two location standards--seismic and floodplain. According to these regulations, a landfill cannot be located within 200 feet of a fault. If a landfill is located in a 100-year floodplain, it must be designed, operated, and maintained to prevent washout of any hazardous waste unless the permittee can demonstrate that waste can be safely removed before floodwaters reach it. Although there are no other location standards, there are performance oriented standards, such as groundwater monitoring and design and operating requirements, which were formulated to ensure protection of human health and the environment.

FEDERAL PUBLIC PARTICIPATION REQUIREMENTS

Before permitting hazardous waste landfills, EPA must assure that the public has the opportunity to participate in the permitting process. The regulations provide that:

--The EPA regional office develop mailing lists of interested persons. The list includes names of persons who have participated in past permit proceedings and individuals who request that their names be included. EPA must also notify the public periodically--through public press and environmental news bulletins, State and regional funded newsletters, and State law journals--about the opportunity to be put on the lists.

--EPA must provide a minimum of 45 days for public comment after a draft permit is prepared. Notice of the draft permit must be sent to people on the mailing list, broadcasted over local radio stations, printed in local newspapers, and announced in any other medium designed to elicit public participation.

--EPA must provide a hearing if requested in writing during the comment period. Notification of the hearing must be at least 30 days before the hearing, and the public comment period is extended until the close of the hearing.

After the public hearing the EPA regional office responds to public comments, indicates changes made in the permit, and either issues or denies the permit. Public notice of this decision and appeal procedures is sent to interested parties, persons who submitted comments, and hearing participants. Thirty days is allowed to file an appeal petition. The Administrator is permitted a "reasonable amount of time" (not specified in the regulations) either to grant or deny the appeal petition.

Experience with RCRA participation requirements

As of May 1, 1983, EPA had permitted only one landfill--the IT landfill in Ascension Parish, Louisiana. The landfill was permitted in December 1982, using temporary land disposal regulations, which were in effect until EPA's final regulations became effective in January 1983. However, the temporary regulations required the same public participation process as outlined in the regulations.

The draft permit for the IT landfill was publicized on July 23, 1982, in two local newspapers, on three radio stations, and notices mailed to about 1,000 people. These announcements invited the public to provide written comments by September 22, 1982, and oral comments during a September 8 and 9, 1982, public hearing. Based on a request, the comment period was extended to October 1, 1982. In December 1982, EPA responded to comments, approved the permit, and provided notice for appeal, as required by regulation. However, the permit was appealed to the Administrator, but as of April 19, 1983, no decision had been reached.

EPA'S CLASS PERMIT PROPOSAL

Current RCRA regulations treat every hazardous waste management facility as being unique and highly complex. However, EPA believes some classes of hazardous waste management facilities, particularly those that store or treat hazardous waste in tanks, piles, or containers, are neither unique nor complex. Such facilities employ relatively simple and well-proven technology, which varies little with the locality. According to an EPA July 22, 1982, concept paper on class permits, a permit issued to one such facility, in most respects, would be quite similar or even identical to permits issued to many other such facilities. As defined by this paper, class permits would not be used for landfills.

According to EPA's Program Manager, Permits Branch, EPA plans to develop class permit regulations using the standard accepted practices for the storage and treatment of hazardous waste in tanks, piles, or containers. In formulating class permit regulations, EPA plans at the national level to follow public participation procedures when proposing class definitions, national permit conditions, and abbreviated application procedures. At the local level, after an abbreviated application is submitted, EPA plans to issue a public notice in the area where the facility is located. Public comments are to be accepted and if requested a public hearing will be held. Public participation is to focus on whether (1) the facility is in the specified class, (2) the applicant can comply with the permit conditions, and (3) the additional site-specific factors are considered. According to EPA's Program Manager, Technology Branch EPA anticipates that these proposed regulations will be published in the Federal Register in late October 1983.

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