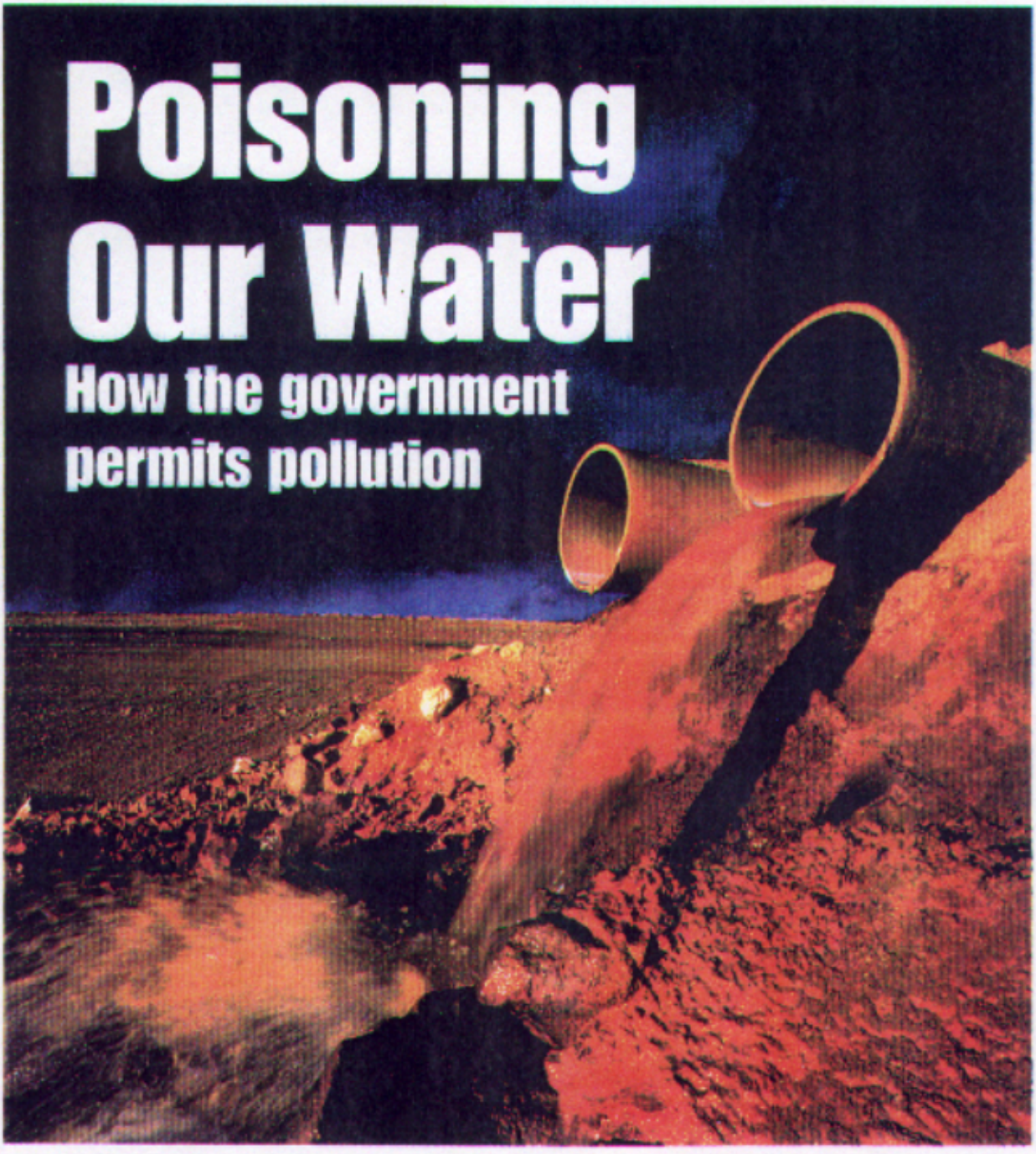

U.S. PIRG
Education Fund

Poisoning Our Water

How the Government Permits Pollution

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Executive Summary

When Congress passed the Clean Water Act in 1972, there was a visible water crisis that made a compelling case for action. The Cuyahoga River literally caught on fire in 1969, and a spill off the coast of California had left millions of gallons of oil along the coastline. The goals of the Act – clearly stated – were to return all waterways to fishable and swimmable conditions by 1983 and to eliminate the discharge of all pollutants by 1985. Nearly 30 years later, while the visible signs of pollution may not be as evident as a burning river, a careful examination of the facts reveals a continuing water pollution crisis in this country. Approximately 40% of our waters are still not safe for swimming or fishing; there have been nearly 30,000 beach closings and advisories since 1988; and in 1998, 47 states issued fish consumption advisories because of high levels of dangerous chemicals.

In order to look at exactly where we have failed in moving toward the goals of the Clean Water Act, this report analyzes two different government databases on pollution. One is the government's publicly available Toxics Release Inventory (TRI), which details the amounts of toxic chemicals being discharged to our waterways. The second is the government's listing of facilities that are in "Significant Non-Compliance" with their Clean Water Act permits, information that can only be obtained through the Freedom of Information Act. Together they provide a comprehensive overview of the amounts and types of pollution being discharged into waterways, as well as the facilities that are in serious and chronic violation of the law.

Our research shows that current laws allow widespread toxic pollution of our rivers, lakes, and streams, and that major polluters regularly violate even these inadequate laws. We found that large companies and sewage treatment plants dumped almost 270 million pounds of toxic chemicals into our waterways in 1997. In addition, while many of these releases may be allowed under the law, nearly 30% of major facilities examined were in Significant Non-Compliance with their Clean Water Act permits for at least one quarter from September, 1997 through December, 1998.

Among the report's other major findings:

- The rivers receiving the largest amounts of toxic chemical releases were the Mississippi River, the Connequenessing Creek (PA), the Brazos River (TX), the Alafia River (FL), and the Houston Ship Channel (TX).

- More than 8 million pounds of persistent toxic metals (like lead and mercury) were released into our waterways, an increase of more than 50% from the previous year and the largest amount since at least 1992.

- Nearly 900,000 pounds of reproductive toxins (like toluene) were released into our waterways, an increase of 60% from the previous year and the largest amount released since at least 1992.

- More than 2.5 million pounds of carcinogens (like vinyl chloride and benzene) were released into our waterways.

- The top ten states with the greatest number of major facilities in Significant Non-Compliance were Texas, Florida, Ohio, New York, Alabama, Louisiana, Pennsylvania, Indiana, Tennessee, and North Carolina.

- The top ten states with the highest percentage of major facilities in Significant Non-Compliance were Utah, Florida, Rhode Island, Ohio, Alabama, Tennessee, Connecticut, Wyoming, Nebraska, and Indiana.

The continued dumping of hundreds of millions of pounds of toxic chemicals into our waterways and the significant violation of the Clean Water Act by nearly 2,000 large facilities stems from several specific policy failures. At the most basic level, the government, including both state agencies and the U.S. EPA, have failed to properly deter polluters. Meanwhile, the courts have eroded citizens' ability to file suits in order to enforce the Clean Water Act. In addition, regulators have failed to progressively lower permitted amounts of pollution in order to move toward the zero-discharge goal of the Clean Water Act.

Community right-to-know laws have been another missed opportunity in the government's efforts to reduce and eliminate pollution. The Emergency Planning and Community Right to Know Act which created the TRI led to significant voluntary reductions in reported toxic releases in the early years that TRI data was released. In recent years, however, toxic pollution has begun to increase. Also, because TRI has focused on end-of-the-pipe releases, the generation of toxic waste has consistently risen even in cases where direct releases have decreased, meaning that government and industry are failing to prevent pollution.

In order to make progress toward the basic goals of the Clean Water Act, U.S. PIRG recommends the following:

1) Mandatory minimum penalties should be set that prevent polluters from profiting by breaking the law. This approach has proved successful for New Jersey, which passed a tough Clean Water Enforcement Act in 1990 which helped to reduce the state's overall ranking in terms of percentage of major facilities in Significant Non-Compliance to 41st (not including U.S. territories). In 1995 they were ranked 16th, and in 1997 they were ranked 36th by percentage of major facilities in Significant Non-Compliance.

2) The obstacles citizens face in the courts should be removed. This means that citizens should be able to sue for past violations and be able to sue federal facilities.

3) Congress and the EPA should expand the current right-to-know program in order to fully honor the public's right to know and to effectively use public information as a tool for eliminating pollution. This means requiring all polluting facilities to report all of their pollution, much of which is currently exempted. Congress and EPA should also require reporting not just on end-of-the-pipe pollution, but on toxic chemical use. This 'materials accounting' reporting is required in Massachusetts and New Jersey, and both states have seen dramatic reduction not just in direct releases, but in the generation of toxic wastes and in the overall use of toxic chemicals.

I. Introduction: The State of Our Nation's Waters

In 1969, the Cuyahoga River near Cleveland burst into flames as a result of toxic contamination. In the same year, an offshore oil rig near Santa Barbara spilled undetermined millions of gallons of oil along the California coastline. These events highlighted an increasing problem: the waters of the United States were facing a pollution crisis. The extent of the problem was emphasized when the Council on Environmental Quality under President Nixon found that only 10 percent of U.S. waters remained classified as unpolluted or even moderately polluted.[1]

In response, Congress passed, over a veto by President Nixon, the Federal Water Pollution Control Act Amendments of 1972, better known as the Clean Water Act (CWA). The CWA established a specific mandate: "to restore and maintain the chemical, physical and biological integrity of the Nation's waters."[2] In order to fulfill this mandate, Congress established the following goals:

- Reduce pollution so that all waterways are fishable and swimmable by 1983, and
- Eliminate the discharge of pollutants into the Nation's waterways by 1985.

In addition, the Clean Water Act increased the Federal government's ability to enforce pollution. Previous to the 1972 Amendments, under enforcement provisions such as the Water Pollution Control Act of 1948, "reasonable periods of time" to take action against polluters were often extended for lengthy periods of time. This was vastly streamlined by the provisions in Section 309 of the 1972 Act. If the Administrator of the U.S. EPA learned of any violation, she was able to issue an administrative order requiring compliance or to initiate a civil suit against the polluter.[3]

Troubled Waters

While the Act has made strides in cleaning up some waterways, the goals of the Act have clearly never been met. The "fishable and swimmable" goal of the 1972 Act remains the unmet benchmark of water quality in the United States:

- Approximately 40% of our rivers, lakes, and estuaries are still too polluted for safe fishing or swimming.[4]
- From 1988 through 1998, there were over 29,996 closings and advisories for U.S. ocean, bay, and Great Lake beaches, and 114 extended (6–12 weeks) closings and advisories.[5]
- 47 states issued fish consumption advisories in 1998, urging limited consumption of fish from their waters due to contamination caused by substances like mercury, PCBs,

[1] Council on Environmental Quality, Second Annual Report, at 218.
[2] 33 U.S.C. § 1251 (a) [C.W.A. § 101 (A)]
[3] The Water Environment Federation. *The Clean Water Act of 1987*, 1987.
[4] Charles Fox, Assistant Administrator for the Office of Water at the U.S. EPA, in testimony before the House Agriculture's Subcommittee on Department Operations, Oversight, Nutrition, and Forestry on October 28, 1999.
[5] Natural Resources Defense Council, *Testing the Waters IX: A Guide to Water Quality at Vacation Beaches*, July 1999.

chlordane, dioxins, and DDT and its byproducts (which continue to persist in our environment).[6]

Although alarming events like a river catching fire may seem like the distant past, it is clear that the level of pollution in U.S. waterways remains unacceptably high. Furthermore scientists are increasingly finding that the threats to human health and the environment are more insidious than once thought. Many toxic chemicals are able to persist in ecosystems for months, years, and even decades, and can accumulate up the food chain and in human body tissues. Even small amounts of these chemicals released into the environment pose a significant threat, and as a result almost all Americans are at risk of consuming dangerous levels of chemicals that pose a serious risk of cancer, immune suppression, or reproductive harm. The most recent summary of research on dioxin – a substance linked to each of these health effects – concludes that Americans' average daily intake of dioxin is already above several federal guidelines and in the mid-range of international guidelines for exposure.[7]

As troubling as these findings are, the true picture could be even worse. According to a report written by current and former environmental officials, the U.S. Environmental Protection Agency (EPA) is not rigorous in their monitoring of water quality. In fact, the report concludes that the states are "free to manipulate numbers in order to falsely portray continuing progress in water quality when, in fact, what fragmentary reliable information exists often suggests the exact opposite."[8] A February 1999 PIRG Report found this to be true even for some of the most dangerous pollutants.[9] Despite the fact that forty states have issued mercury advisories warning citizens to limit fish consumption for at least one body of water, twelve states conduct no or very limited monitoring of their waterways for mercury-contaminated fish.

America's Dumping Grounds

The reason that American waterways have not recovered in accordance with the Clean Water Act's goals is simple: polluters continue to use our waterways as dumping grounds. This report documents two aspects of this negligent and destructive habit. EPA allows too much pollution to occur and then does not enforce the limits it sets.

First, for a glimpse of the pollution that enters our waterways, we examine water pollution data as reported to the Toxics Release Inventory (TRI) for 1997. The TRI is the best source of public information about toxic pollution in our environment, and consists of pollution estimates reported by industrial facilities across the country. In order to create a more real picture of how these releases impact our environment and our communities, we summarize the TRI data by body of water.

Inconsistencies among EPA's environmental programs and in EPA's data management make it nearly impossible to cross-reference TRI reports with the amounts of pollution that EPA or state agencies have permitted. Among other problems, the Clean Water Act and the TRI cover different sets of facilities (i.e. some facilities required to obtain Clean Water Act permits are not required to report their pollution to TRI) and different sets of chemicals (similarly, facilities may be required to report releases of certain toxic chemicals to TRI, but are not required to obtain

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[6] U.S. EPA, *Update: National Listing of Fish and Wildlife Advisories*, Office of Water, July 1999, EPA-823-F-99-005.

[7] Center for Health, Environment, and Justice, *America's Choice: Children's Health or Corporate Profit – the American People's Dioxin Report* (peer-reviewed summary of recent scientific findings). 1999.

[8] Public Employees for Environmental Responsibility. *Murky Waters*, May 1999.

[9] U.S. PIRG Education Fund. *Fishing for Trouble*, February 1999.

permits in order to release them). However, since industries report this information to EPA, the toxic releases represented are at least tolerated, if not legally permitted, by EPA.

EPA or authorized states issue water permits to facilities through the National Pollutant Discharge Elimination System (NPDES), established by EPA under the Clean Water Act. This system requires all public and private entities intending to discharge pollutants into surface waterways to obtain and comply with individual discharge permits. The permits generally contain limitations on the quantity or concentration of pollutants that the facility can discharge.

Although the Act was premised upon a goal of zero discharge, its implementation has not come close to that goal. EPA has sanctioned a permit-to-pollute system rather than a pollution elimination system. The elimination of water pollution was to be accomplished through a gradual tightening of permits based on emerging control technologies. Progressive permit tightening, coupled with enforcement action against permit violators, would eventually reduce industrial and municipal pollution levels to achieve the interim Clean Water Act goal of fishable and swimmable waterways, and ultimately zero discharge.

Progressive permit tightening, however, has not occurred. The hundreds of millions of pounds of reported toxic discharges documented in the TRI (and discussed in Section IIIA of this report) show that the federal government has failed to move toward the goals which even the permitting system's name reflects – the elimination of polluting discharges.

In addition to the hundreds of millions of pounds of toxic water pollution legally allowed by EPA every year and reported in the TRI database, water quality is further compromised by the government's failure to enforce the permitted limits on pollution and reporting. Many facilities are in significant non-compliance with their permits, as defined by the EPA. This means they discharge amounts of pollutants which far exceed designated limits and/or fail to file required reports in a reasonable time frame.

U.S. PIRG has released several reports throughout the 1990s documenting this problem, and showing that major point-source polluters seriously and chronically violate the law.[10] The findings of this report, similar to our findings in other reports published in the past decade, confirm that non-compliance with the Clean Water Act remains consistently and unacceptably high.

II. Documenting the Pollution of America's Waterways

A. Reported Toxic Releases: The TRI

The cataloging of toxic discharges in this report is based on data collected in EPA's Toxics Release Inventory (TRI) for the reporting year 1997, the most recent year available, as well as the two previous years, 1996 and 1995. A previous version of this report summed 1992-1996 TRI data; most results in this report use the 1997 TRI reporting year by itself, and sometimes give separate results for 1996 and 1995 for comparison.

[10] In 1997, PIRG found nearly 20% of major facilities were in Significant Non-Compliance (SNC) with their CWA permits during at least one quarter between January 1995 and March 1996. In 1995, PIRG found 20.5% of major facilities were in SNC between July 1993 and December 1994. In 1993, we found 21% of majors in SNC between October 1991 and September 1992. Because the time period covered and reporting rules are not identical in all surveys, direct comparisons are inappropriate.

The Toxics Release Inventory was established by the Emergency Planning and Community Right to Know Act (EPCRA) in 1986, a landmark law which gave the public the right to know about the contamination of our environment and shined the spotlight on polluters nationwide (for more background on EPCRA and TRI, see Section IV of this report).

The reporting requirements of the TRI apply only to manufacturing industries and, starting in 1994, federal facilities. This narrow focus excludes a large universe of water polluters, including sewage treatment plants, oil drilling and gas extraction facilities, mining industries, incinerators and other waste disposal facilities, farms, and stormwater systems. After a successful effort by several public interest groups, including the State PIRGs, EPA in 1997 expanded the list of industry sectors required to report their toxic discharges, but those facilities reported for the 1998 reporting year and that data will not be made available until later in 2000. However, even after this expansion, many of the significant dischargers of toxic chemicals will not be required to report toxic releases to the environment, including medical waste incinerators and industrial dry cleaners.

The TRI is further limited in several ways:

- Companies were required to report the releases of only about 620 chemicals out of at least 70,000 chemicals regularly used in commerce, most of which have not been thoroughly tested for basic toxicity.[11]

- In order to avoid burdening small businesses, EPA has exempted facilities with less than 10 employees from reporting their toxic releases.

- A facility only has to report toxic releases of chemicals for which more than 25,000 pounds were “manufactured or processed” or more than 10,000 pounds were “otherwise used” during the year. In October of 1999, EPA issued regulations reducing those thresholds for a narrow list of substances known to persist in the environment or accumulate in the food chain or in human tissues. However, the first reporting year for which those thresholds apply will be 2000, with data expected to be made public in 2002.

With these significant limitations in place, the TRI data, while the most comprehensive cataloguing of pollution, reflect only a portion of the actual pollution taking place.

Analyzing Direct Discharges by Body of Water

Discharges from TRI facilities were assigned to a given waterway based on the "receiving stream" reported to the EPA. Most waterways reported as "tributary" streams were included with their respective rivers in this report when both were listed. Rivers themselves, however, were not considered part of larger watersheds. For example, a "Tributary to the Mississippi River" was counted as Mississippi River, while the Missouri River was not, even though it eventually runs into the Mississippi. Small streams receiving large quantities of discharges such as Gravely Run in Virginia and Clear Creek in Colorado are reported individually, as reported to the TRI. Water bodies with the same name in different states were not assumed to be contiguous without verification. To avoid adding creeks from different states together, creeks had their state added to their name if that name existed in more than one state (e.g. “Clear Creek, Colorado”). The same was done for rivers unless it was verified that the same river ran through the multiple states in

[11] EPA is currently embarking on a joint project with Environmental Defense and the Chemical Manufacturers Association to conduct basic toxicity testing for approximately 2,700 of the chemicals produced in the largest quantities in the U.S.

question. More than 1,800 different water body names were listed in the TRI database for this period.

We calculated river by river totals for persistent toxic metals, carcinogens and chemicals known to cause reproductive effects, based on information characterizing the toxic properties of these substances previously published by the U.S. Environmental Protection Agency and the State of California.[12],[13] References for chemical characterizations and lists of chemicals included are found in Appendix A, Table 17.

Reporting Toxics Dumped Down the Drain

Enormous quantities of toxic chemicals are discharged to waterways via sewer systems. These so-called "transfers" of toxic chemicals to publicly owned treatment works (POTWs) totaled nearly 270 million pounds in 1997, compared to 218 million pounds of direct discharges to waters reported in the same year (see Section III for more discussion of the amounts discharged to POTWs in 1997). While the EPA does not count these transfers as environmental releases, they estimate that 25 percent of these transfers flow through sewer systems untreated.[14]

To better estimate the amount of toxic chemicals that actually make it into the nation's waters each year, we used an estimated "pass-through percentage" for each chemical. This is the percentage of the chemical that would pass through a sewer system and be released when the chemical is transferred to a "typical" POTW. Pass-through percentages were obtained from EPA's OPPT Risk Screening Environmental Indicators computer program (v1.0, 1988-1997 TRI data).[15] For some chemicals, a POTW pass-through percentage was not estimated in this source, and for those we had to use EPA's general 25 percent estimate. Appendix A, Table 17 includes, along with the chemical characterizations, the pass-through percentage used for each chemical. In the charts used in this report, the amounts of direct releases to water are combined with "indirect" releases estimated by multiplying the amount of each chemical sent to a POTW by its pass-through percentage. Of the nearly 270 million pounds of toxic chemicals sent to POTWs in 1997, we estimate that 51 million passed through and were released to surface waters. Unless otherwise indicated, analyses and tables listed in this report include both reported direct toxic releases and toxic releases estimated to have reached a waterway after passing through a POTW.

To identify the waters to which sewage treatment plants discharge effluent, we used an existing survey of the top 50 POTWs receiving TRI transfers. Most of these had their effluent receiving waters identified by the Environmental Working Group (EWG) for a previous version of this report. In addition, we identified the receiving waters for many more POTWs by examining the Permit Compliance System (PCS) water permits for municipal facilities in the city that the TRI transfers were sent to. In all, receiving waters were identified for 234 of the top POTW cities receiving TRI transfers in 1997. (It is often impossible to tell which municipal facility in a city is being used from TRI information, so only cities in which all facilities discharged to the same water body were included). The POTW cities with identified receiving waters accounted for about 67 percent of the TRI chemicals sent to POTWs in 1997. POTW transfers whose receiving waters were not identified were still included in all tables that do not summarize data by body of water.

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[12] U.S. EPA, list of carcinogens used in the Public Data Release for the 1997 Toxics Release Inventory.
[13] California Environmental Protection Agency, Lists of carcinogens and reproductive and developmental toxins under Prop 65, version dated September 1999.
[14] U.S. EPA. *National water Quality Inventory: 1994 Report to Congress*. Office of Water, December 1995.
[15] U.S. EPA. *Risk-Screening Environmental Indicators* (CD-ROM), v1.0 (1988-1997 TRI data). July 1999.

B. Illegal Discharges: Violations of Clean Water Act Permits

Unfortunately, no centralized database with direct compliance information is easily available to the public from EPA at this time. Therefore, in order to produce this report, U.S. PIRG has obtained enforcement and compliance data from EPA under a Freedom of Information Act (FOIA) request.

Permit Violators: Significant Non-Compliance Data

The data comes from the EPA's Permit Compliance System (PCS) database. It is derived from Discharge Monitoring Reports (DMRs), the periodic self-monitoring reports submitted by permitted facilities to EPA regional offices and to state regulatory agencies in states with delegated implementation authority. States and regions should be entering DMR data into the PCS regularly, on a quarterly basis, so that EPA and citizens have accurate, up-to-date compliance information on which to base enforcement or citizen suit targeting decisions.

The PCS screens the information from DMRs to identify "Reportable" and "Significant" instances of permit non-compliance, which are violations of permit limits or reporting requirements that have occurred at frequencies and magnitudes EPA considers to be of concern. "Significant Non-Compliance" (SNC) is a screening tool used by EPA to identify and track the most severe and chronic violations reported to the PCS.

The specific criteria used by EPA to identify the five basic types of violations that can earn a facility SNC status are as follows:[16]

1. Exceeding a Monthly Effluent Limitation (E): This occurs when a facility discharges a pollutant in an amount or concentration that exceeds the limit in its permit over a certain period of time. A 40% exceedence of conventional pollutant limits or a 20% exceedence of toxic pollutant limits that occurs for two months in a six month period, or any exceedence that occurs for four months in a six month period, constitutes SNC.

2. Exceeding a Non-Monthly Effluent Limitation (X): The criteria here are the same as above, except that when a permit has both a monthly average limit and a non-monthly average limit, a facility would only be considered in SNC for the non-monthly limits if the monthly average is also violated to some degree (but less than SNC).

3. Failure to Submit a Discharge Monitoring Report (D): This occurs when agency records show no receipt of a required periodic self-monitoring report from the facility. Non-receipt of a discharge monitoring report after 30 days may constitute SNC.

4. Violation of a Compliance Schedule (S): A compliance schedule is an agreement between a permittee in violation of its permit and the enforcing regulatory agency. The compliance schedule established a timeline and plan under which the violator will return to compliance. A violation of a milestone or limitation in that compliance schedule may constitute SNC.

5. Failure to Submit a Compliance Schedule Report (T): This occurs when agency records show no receipt of a mandated compliance schedule report for which a facility on an approved compliance schedule is responsible.

[16] See 40 C.F.R. part 123, and also U.S. EPA Memorandum from Steven A. Herman, Assistant Administrator, "Revision of NPDES Significant Noncompliance (SNC) Criteria to Address Violations of Non-Monthly Average Limits," September 21, 1995.

EPA's SNC enforcement screening tool applies only to "major" facilities. Thus, the data presented in this report covers only the approximately 6,670 major industrial, municipal, and federal facilities in the U.S. and its territories. Federal and industrial facilities are designated as "major" based on an EPA scoring system that considers a combination of factors, including toxic pollutant potential, streamflow volume, public health impacts, and proximity to coastal waters. For example, a major municipal facility is a publicly owned treatment works (POTW) that serves a population of 10,000 or more, discharges one million gallons or more of wastewater daily, or has a significant impact on water quality.

Virtually no compliance information regarding the approximately 50,000 additional "minor" NPDES facilities is available to the public. Due to the lack of public oversight and accountability with respect to these smaller facilities, it is reasonable to expect that minor facility non-compliance rates are even more substantial than those of the major facilities examined in this report.

For many reasons, the SNC data still represents only a fraction of the problem regarding illegal water pollution. As mentioned above, some states are free to manipulate numbers in order to falsely portray continuing progress in water quality, and in addition states often fail to submit their discharge monitoring reports in a timely manner. The problem of illegal pollution continues, and a 1993 GAO report concluded that self-reporting NPDES facilities may have incentives to hide rather than report environmental violations.[17]

Another problem is that SNC data sets an arbitrary definition of "significant." To anyone living near a facility discharging highly toxic substances, any violation is significant. A related problem is highlighted in a memo to all Regional Water Management Division Directors from the Assistant Administrator of the Office of Enforcement and Compliance Assurance: "I wish to remind the Regions (and States) that they may remove SNC indicators in PCS for those occasional violations that technically meet the SNC criteria but, in reality, do not constitute a significant infraction."[18] This bureaucratic double-speak is a minimization of the harm caused by polluting corporations and an abdication of EPA's enforcement responsibilities.

Although the data should be correctly reported by industries and states, the Data Management Branch at EPA notified all PCS state and regional coordinators in an additional message to verify all data that was sent to U.S. PIRG (See Appendix C). In addition, in a personal communication with the Data Management Branch, it was confirmed that coordinators were repeatedly notified in monthly PCS conference calls that data should be verified.[19]

III. Findings: Our Waterways Are Used as Dumping Grounds

A. Reported Toxic Releases to Waterways in 1997

Almost 220 million pounds (218,423,778) **of toxic chemicals were directly discharged to America's waters in 1997**, according to Toxics Release Inventory (TRI) records (Appendix A, Table 1). In addition, nearly 270 million pounds of toxic chemicals were discharged into sewer systems and reported as "transferred" to publicly owned treatment works (POTWs).

[17] General Accounting Office. *Environmental Enforcement: EPA Cannot Ensure the Accuracy of Self-Reported Compliance Monitoring Data*, GAO/RCED-93-21, March 1993.
[18] Herman 1995.
[19] Personal communication with Lisa Raymer, Data Management Branch, January 6, 2000.

Conservative estimates suggest that **nearly 51 million pounds of toxic substances made their way through POTWs to rivers and other waters**. This brings the total amount of toxic chemicals released to America's waterways in 1997 to nearly 270 million pounds (269,134,333). Again, unless otherwise indicated, the specific amounts of toxic releases reported in this report indicate both direct releases and our calculations of the amount reaching the body of water after passing through a POTW.

The amount of toxic chemicals discharged to our waterways is increasing**. Releases in 1997 were 18.7 percent higher than in 1996**. While the U.S. EPA consistently points to greater than 40% reductions in toxic chemical releases overall since the TRI was established, this report shows that industry and government are not reducing toxic chemicals releases across the board.

The Most Polluted Waters

The Mississippi River received the largest amounts of toxic discharges in 1997, nearly 60 million pounds (Appendix, Table 3). The next five waterways receiving the largest amounts of reported toxic releases were the Connoquenessing Creek in Pennsylvania, the Brazos River in Texas, the Ohio River, the Alafia river in Florida, and the Houston Ship Channel in Texas.

This report analyzes data on toxic discharges for more than 1,500 water bodies. **For 72 percent of these water bodies, one polluter accounted for all reported toxic discharges during 1997**; for 89% of all polluted waters, three or fewer polluters accounted for all reported toxic discharges during this time. These figures suggest that substantial improvements in local watersheds might be possible through efforts that target a few major polluters.

States discharging the largest amounts of water pollution (Appendix A, Table 4)were Louisiana, Pennsylvania, Texas, Mississippi, Ohio, Florida, and New Jersey, each discharging more than 9 million pounds of toxics to their waterways. Louisiana and Pennsylvania each discharged more than 40 million pounds.

The Biggest Polluters

The facilities releasing the largest amounts of toxic pollution to water in 1997 can be seen in Appendix A, Table 5. The top three facilities were the PCS Nitrogen Fertilizer facility in Geismar, Louisiana, releasing nearly 30 million pounds; the Armco facility in Butler, Pennsylvania, releasing more than 26 million pounds, and the BASF facility in Freeport, Texas, releasing more than 14 million pounds. The PCS Nitrogen Fertilizer facility in Louisiana discharged nearly 30 million pounds of toxic chemicals to the Mississippi River, meaning more than half of the pollution entering the Mississippi (which received more than any other water body in the U.S.) came from a single facility.

When year-to-year trends are examined, it is again clear that targeting these top polluters would likely make substantial improvements in the long-term quality of local watersheds. Nine of the ten biggest polluters were among the top 25 water polluters for all three years between 1995 and 1997; five were among the top 10 in all three years.

The parent corporations responsible for the most toxic releases to waterways in 1997 (Appendix A, Table 6)were: Armco Inc., with nearly 32 million pounds of releases; PCS Nitrogen Fertilizer LP, with more than 30 million pounds; BASF Corp., with more than 16 million pounds; E. I. Du Pont De Nemours & Co. Inc., with nearly 9 million pounds; and Vicksburg Chemical Co., with more than 8 million pounds.

It is important to note that many other facilities which released smaller amounts of toxic pollution may have released pollutants with more potential to harm human health. Later discussion in this report on carcinogens, persistent toxic metals, and reproductive toxins (see the next section, "The Most Dangerous Pollutants") will examine the facilities releasing the largest amounts of these substances.

Chemicals Released in the Largest Amounts

The chemical discharged to America's waterways in the largest amounts in 1997 (see Appendix A, Table 7) were nitrate compounds (more than 156 million pounds), phosphoric acid (nearly 48 million pounds), methanol (more than 14 million pounds), and ammonia (more than 12 million pounds). Nitrate compounds, phosphoric acid, and ammonia present serious threats to the aquatic environment when discharged in large quantities like those reported here, because they are converted to the nutrients nitrogen and phosphorus in water.

Through the process of eutrophication, phosphorus can ultimately deprive the freshwater ecosystem of the oxygen needed to sustain life. Phosphorus pollution has been responsible for numerous fish kills in the past. Nitrogen can contribute to this same process in salt water and presents a serious threat to the health and economic viability of many of the nation's bays and estuaries. Phosphorus and nitrogen are primarily responsible for the low-oxygen conditions that threaten whole ecosystems such as the Chesapeake Bay and portions of the Gulf of Mexico.

The Most Dangerous Pollutants

These releases present serious threats to human health and the environment. Every TRI chemical is reported to the TRI because EPA considers it to be toxic. However, some TRI chemicals present additional concerns because of their carcinogenicity, their ability to persist in the environment for long periods of time, or reproductive toxicity (see Appendix A, Table 2). **Nearly 11 million pounds** (10,718,011) **of carcinogens, persistent toxic metals, and reproductive toxins were released to America's waters in 1997**. This figure represents the largest amount reported since at least 1992.[20] Of those releases:

- more than 8 million pounds of persistent toxic metals (like lead and mercury) were released, an increase of more than 50% from the previous year and the largest amount since at least 1992.

- more than 400,000 pounds of reproductive toxins (like toluene) were released..

- more than 2.5 million pounds of carcinogens (like vinyl chloride and benzene) were released.

It should be noted that total discharges for these three categories do not add up to the 11 million pounds cited above because some chemicals fall into more than one category (e.g. are both reproductive toxins and carcinogens) but were only counted once in calculating the total.

Persistent Toxic Metals

The **Ohio River** received the largest amounts of persistent toxic metals in 1997 (see Appendix A, Table 8), with 641,150 pounds of these compounds that natural systems are unable to break down and will thus pose a long-term threat to the environment. The Ohio River was followed by the **Mississippi River**, with 580,764 pounds; the **Alabama River**, with 488,424 pounds; **Lake Erie** with 365, 481; and the **Savannah River** (GA, SC), with 312,596 pounds. Releases to Lake Erie are of particular concern because of the already severe contamination of the Great Lakes by persistent bioaccumulative toxic chemicals. This is problem is so severe that the International

[20] Data on releases from 1992-1996 is summarized in U.S. PIRG, *Troubled Waters*, August 1998.

Joint Commission (a joint U.S.-Canadian governing body that handles Great Lakes issues) has called for eliminating releases of persistent toxic chemicals.[21] Despite such calls from organizations and governments alike, this report demonstrates that the pollution of Lake Erie continues at dangerous levels.

The facilities releasing the largest amounts of persistent toxic metals in 1997 (Appendix A, Table 9) were: Elkem Metals in Marietta, OH (453,000 pounds into the Ohio River); the Georgia-Pacific facility in Zachary, Louisiana (260,000 pounds into the Mississippi); the International Paper facility in Selma, Alabama (247,100 pounds into the Alabama River); the Champion International facility in Courtland, Alabama (246,000 into the Tennessee River); the Georgia-Pacific facility in Ashdown, Arkansas (243,000 into the Red River); and the Millennium Inorganic facility in Ashtabula, Ohio (200,000 pounds into Lake Erie). The presence of two Georgia-Pacific facilities among the top 5 releasers of carcinogens shows an outstanding level of environmental irresponsibility. In fact, five of the top 6 facilities (all except Elkem Metals) are owned by corporations that have more than one facility among the top 50 releasers of persistent toxic metals. International Paper has at least seven facilities that are among the top 50; Georgia-Pacific and Champion International each have at least five; and Millennium Inorganic has at least three.

Alabama, Ohio, Georgia, Louisiana, and South Carolina were the states releasing the largest amounts of persistent toxic metals to their waterways in 1997 (Appendix A, Table 10). Alabama also stands out for the dramatic 207% increase since 1996 (355,974 pounds in 1996, 1,125,091 pounds in 1997). While Ohio registered a nearly 25% decrease in persistent toxic metal releases, Georgia and Louisiana each had increases of more than 130%.

Reproductive Toxins

The water body receiving the largest amounts of chemicals that are toxic to the reproductive system was the **Delaware River**, receiving an estimated 92,548 pounds of reproductive toxins from facilities in Delaware, New Jersey and Pennsylvania (Appendix A, Table 11). The other water bodies in the top 5 for reproductive toxin releases in 1997 were the **Hudson River** (NY, NJ) with 41,039 pounds; the **New York Harbor** with 30,721 pounds; an unknown body of water receiving 29,757 pounds from a POTW in Mentor, OH; and the **Calcasieu River** in Louisiana, receiving 23,135 pounds. Notably, the New York Harbor received nearly ten times the amount of reproductive toxins discharged to that body in either 1995 or 1996.

The facilities releasing the largest amounts of reproductive toxins in 1997 (Appendix A, Table 12) were: the Du Pont Chamber Works facility in Deepwater, New Jersey (82,802 pounds to the Delaware River); the Wyeth Ayerst Pharmaceuticals facility in Pearl River, New Jersey (40,903 to the Hudson River); the Uniroyal Chemical facility in Painesville, Ohio (29,757 pounds through a POTW to an unknown body of water); the Cardolite facility in Newark, New Jersey (26,988 pounds to the New York Harbor); and PPG Industries, Inc. in Lake Charles, Louisiana (23,000 pounds to the Calcasieu River). The bodies of water discharged into by these five facilities are the facilities receiving the largest amounts of reproductive toxins, demonstrating again the severe impact that one facility's discharges can have on a body of water.

New Jersey, New York, Texas, Ohio, and Louisiana were the states discharging the largest amounts of reproductive toxins in 1997 (Appendix A, Table 13). The state discharging the most, New Jersey, discharged nearly 3 times the quantity of reproductive toxins discharged by the state with the second largest amount (New York).

[21] International Joint Commissions, *Ninth Biennial Report on Great Lakes Water Quality*. 1997.

Carcinogens
The **Delaware River** received the largest amount of carcinogen releases in 1997: 172,150 pounds released from facilities in Delaware, New Jersey, and Pennsylvania (Appendix A, Table 14). The water body receiving the second largest amount of carcinogens was an unknown water body in San Diego, California. The releases were discharged to a water treatment facility there, which did not report the name of the water body into which it was releasing chemicals. The other water bodies in the top 5 for largest amounts of carcinogens released in 1997 were the **Mississippi River**, receiving 127,749 pounds; the **Houston Ship Channel** (TX) receiving 124,200; and the **Atlantic Ocean**, receiving 102,740 pounds from facilities in Maine, Puerto Rico, and Rhode Island.

The facilities discharging the largest amounts of carcinogens in 1997 (Appendix A, Table 15) were Rodel, Inc. in Newark, DE (104,550 pounds into the Delaware River); Fluid Sys. Corp. in San Diego, CA (101,543 pounds through a POTW to an unknown body of water); Schering-Plough Products Inc. in Manati, Puerto Rico (65,088 pounds into the Atlantic Ocean); Filtec Corp. in Edina, MN (63,210 pounds through a POTW in St. Paul, MN, to an unknown body of water); and Eastman Kodak Co. in Rochester, NY (56,499 pounds into the Genessee River).

The states with the highest amounts of carcinogens released to waterways in 1997 (Appendix A, Table 16) were **California, Texas, and Delaware**. **South Carolina, West Virginia, Washington, New Jersey, Louisiana, Minnesota, Alabama, and Puerto Rico** also each had more than 100,000 pounds of carcinogens released to waterways. Alabama had more than 30% more carcinogens released in 1997 than in 1996, and Louisiana had more than a 40% increase. In Ohio, reported releases of carcinogens decreased by nearly 50%.

B. Polluters Violating the Law

Facilities in "Significant Non-Compliance"
An evaluation of the EPA's Permit Compliance System data reveals that a total of **nearly 30%** (29.36%) **of major facilities** (1,958 facilities) in the U.S., Puerto Rico, and U.S. Virgin Islands were in Significant Non-Compliance, as defined by EPA, with their Clean Water Act NPDES permits for at least one quarter during the 15 months beginning September 1, 1997 and ending December 31, 1998. A total of **228 major facilities were in SNC during the entire 15 month period** (Appendix B, Table 7).

Industrial Facilities
A total of 661, or **26%**, of the 2,555 major industrial facilities were in SNC during at least one of the five quarters covered (Appendix B, Tables 5 and 6).

Municipal Facilities
A total of 1258, or **31%**, of the 3,999 major municipal facilities were in SNC during at least one of the five quarters covered (Appendix B, Tables 3 and 4). Most municipal facilities in this report are POTWs. POTWs are designed to treat municipal sewage, but their non-compliance is often the result of discharges from industrial "users" who discharge into sewer systems rather than surface waters. Because most POTWs are not designed to treat many industrial chemicals, toxics discharged into sewers either pass through the POTW untreated or contaminate the facility's sludge. The industrial users which create this pollution are not readily identified in the NPDES reporting system analyzed in this report. While we have been able to determine for many

facilities discharging toxics to POTWs which POTW they discharge to, one cannot look at the data on a particular POTW and determine where their toxics are coming from.

Federal Facilities
A total of 37, or **32%** of the 114 major federal facilities were in SNC during at least one of the five quarters covered. Considering that the federal government is supposed to be responsible for implementation of our Clean Water Act and therefore should be setting an example, these figures are particularly alarming.

States With the Most Violators
The top ten states with the **greatest number** of major facilities in SNC were Texas, Florida, Ohio, New York, Alabama, Louisiana, Pennsylvania, Indiana, Tennessee, and North Carolina (see Appendix B, Table 1). Texas, Florida, Ohio, Pennsylvania, Louisiana, New York, and Alabama were also among the top ten in PIRG's *Dirty Water Scoundrels*, covering non-compliance data from January 1995 through March 1996.

The top ten states with the **highest percentage** of major facilities in SNC were Utah, Florida, Rhode Island, Ohio, Alabama, Tennessee, Connecticut, Wyoming, Nebraska, and Indiana (Appendix B, Table 2). Florida, Utah, Rhode Island, and Tennessee are repeat offenders on PIRG's top ten percentage list.

The above top ten lists do not include either Puerto Rico or the U.S. Virgin Islands, which rank number one and three respectively for percentage of major facilities in SNC when included with the 50 states. Puerto Rico also ranks sixth overall when compared to the 50 states and the Virgin Islands in terms of number of major facilities in SNC.

Additional tables in Appendix B break down, state by state, industrial and municipal facilities violating their permits. Table 7 in Appendix B lists each of the facilities in violation and what the violation was for.

One state provides a good example of the effects of strong enforcement. New Jersey PIRG worked to pass the New Jersey Clean Water Enforcement Act of 1990. This law includes mandatory minimum penalties for serious violations and significant noncompliance, and requires that penalties recover the economic gain polluters have realized through noncompliance. New Jersey is now ranked 41st among states by percentage of facilities in SNC, a compliance rate correlated to improvements in Clean Water Act enforcement.

IV. Discussion: Why Our Laws Have Failed to Stop Water Pollution

A. The Government Has Implemented a "Permit to Pollute" System Rather Than a Pollutant Discharge Elimination System

The State of New Jersey provides a perfect example of where regulators' permitting systems have gone wrong. As mentioned above, in 1990, New Jersey PIRG worked to pass the New Jersey Clean Water Enforcement Act. This law, with mandatory minimum penalties for serious violations and significant noncompliance, and requirements that penalties recover the economic gain polluters have realized through noncompliance, forced polluters to comply with permits at a much higher rate. In this report, New Jersey ranks 41st among states by percentage of facilities in SNC.

However, the TRI data discussed in Section III show that New Jersey ranks 1st in the nation for releases of reproductive toxins and 7th for releases of carcinogens. New Jersey is also ranked 7th in the nation for total releases of toxic chemicals. While compliance with Clean Water Act permits has been relatively good since passage of state Clean Water Enforcement legislation, the continued release of large amounts of hazardous chemicals reinforces the fact that the government is simply granting facilities a license to pollute. New Jersey has fixed one aspect of the problem – non-compliance – but failed to carry out the intention of the Clean Water Act, that permits would be tightened in order to eventually eliminate dangerous pollution.

The practice of permitting dangerous pollution, rather than issuing progressively tighter permits in order to eliminate dangerous pollution, is reflected by the TRI data nationally. This report documents 270 million pounds of releases of chemicals considered by EPA to be toxic – including 11 million pounds of carcinogens, persistent toxic metals, and reproductive toxins. If EPA were regulating pollution with the Clean Water Act's goal of eliminating water pollution in mind, this level of toxic discharges would not be allowed. Furthermore, water pollution reported to TRI is rising – 20% since 1996. Any permitting system which included the gradual tightening of permits should not result in increases in toxic pollution.

B. Polluters Are Allowed to Evade the Law

In addition to having failed to progressively tighten permits, regulators have failed to enforce the permits they issue. Three main reasons for the widespread, serious, and chronic violations of the Clean Water Act are explored below.

1. Government Enforcement Has Been Weak and Sporadic

The most obvious explanation is that government enforcement of the Clean Water Act has been lax. EPA and many of the delegated state agencies charged with implementing the Act have lacked both the resources and the political will to enforce the law aggressively and provide a credible deterrent against illegal pollution.

This series of U.S. PIRG Clean Water non-compliance reports, as well as studies by the General Accounting Office[22], the EPA Inspector General's Office[23],[24],[25] states[26], law reviews[27],[28], and others[29],[30] demonstrate that serious and chronic discharge violations are routinely ignored. These

[22] General Accounting Office. *Water Pollution – Many Violations Have Not Received Appropriate Enforcement Attention*, GAO/RCED-96-23, March 1996.
[23] EPA Office of the Inspector General, *Region 10's Wastewater Permit Program Needs Improvement to Protect Water Quality in Alaska and Idaho*, E1HWF7-10-0012-8100076, 1998.
[24] EPA Office of the Inspector General, *EPA's Office of Water Data Integration Efforts Need to Be More Focused and Significant*, E1NWG6-15-0001-8100177, 1998.
[25] EPA Office of the Inspector General, *Region III Water Quality Standards, Monitoring, and Reporting*, E1HWF7-03-0160-9100118, 1999.
[26] Joint Legislative Audit and Review Commission of the Virginia General Assembly, *Review of the Department of Environmental Quality*, 1996.
[27] Flatt, Victor B. "A Dirty River Runs Through It (The Failure of Enforcement in the Clean Water Act)," 25 Boston College Environmental Affairs Law Review, Fall 1997.
[28] Yeo, Derek A. and Roy A. Hoagland, "*United States v. Smithfield* (972 F. Supp. 338 (E.D. Va. 1997)): A Paradigmatic Example of Lax Enforcement of the Clean Water Act by the Commonwealth of Virginia," William and Mary Environmental Law and Policy Review, vol. 23, no. 2 (Spring 1999), p. 513-56.
[29] Worth, Robert. "Asleep On The Beat," *The Washington Monthly*, November 1999.
[30] Cushman, John H., Jr. "E.P.A. and States Found to be Lax on Pollution Law: Enforcement is Faulted: Agencies Are Failing to Inspect, Issue Permits and Report Violations, Audit Says," *New York Times*, June 7, 1998.

studies have also argued that enforcement actions taken by EPA and states are frequently ineffective in returning violators to compliance.

- According to Nikki Tinsley, EPA's Inspector General, penalties assessed for polluters are often too small to offset the economic gain received by breaking the law, establishing a perverse incentive to pollute while creating a competitive disadvantage for law-abiding companies. This, in addition to the large disparity between state penalties, exacerbates the "race to the bottom" for states trying to attract polluting industries that the Clean Water Act was designed in part to prevent.[31]

- In the past, despite serious and chronic violations, most enforcement actions have been "informal slaps on the wrist" rather than formal actions, such as administrative fines and penalties.[32]

- According to *The Washington Monthly*, one EPA regional official said her administrator "will reduce or eliminate [their] enforcement response after congressmen get in touch with him." Despite being an egregious violation of EPA's ethics rules – aside from the damage it does to the public's health and the Agency's credibility – she said it happens in up to one quarter of the cases she oversees.[33]

Unfortunately, the situation is getting worse, not better. At EPA headquarters, the number of people doing enforcement work dropped from 340 in 1993 to 140 in 1997. According to a recent report, prosecution of environmental crimes has fallen sharply during the Clinton administration. One US attorney said, "Under the Clinton administration, environmental crimes have only been a paper priority; there has been no real commitment of resources, expertise or organizational muscle."[34] And on the state level, good enforcement work can be grounds for demotion, as exemplified by Captain Ronald Gatto, a police officer with New York City's Department of Environmental Protection. After making 156 arrests for environmental crimes in the 1990s with a 100 percent conviction rate, Captain Gatto was harassed by Mayor Giuliani's administration, denied pay raises and promotions, and eventually reassigned away from enforcement.[35]

In a January 19, 2000 Press Release, the EPA announced what it described as record setting enforcement numbers for 1999. Administrator Browner stated that, "This year's enforcement statistics again send a strong signal that we will unfailingly take action against those who illegally pollute the environment of our country." She put it even more bluntly at a recent press conference announcing a $30 million fine – the largest in the history of federal environmental laws – against Koch Industries, Inc. The company had more than 300 oil spills from its pipelines and oil facilities in six states, totaling more than three million gallons of crude oil, gasoline, and other products that leaked into ponds, lakes, rivers, and streams from 1990 to 1997. Administrator Browner said, "It's this simple: You pollute, you pay."[36] Unfortunately, polluters are routinely breaking the law, and 30% of major facilities in Significant Non-Compliance demonstrates that current enforcement is still not deterring polluters.

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[31] Worth, 1999.
[32] Hembra, Richard. Director of Environmental Protection Issues at U.S. General Accounting Office, Testimony before House Public Works Committee's Subcommittee on Water Resources, May 1991.
[33] Worth 1999.
[34] Public Employees for Environmental Responsibility, *Uneven Justice*, December 1998.
[35] "City Accused of Leashing Water Pollution Officer," *New York Times*, June 19, 1999; and Worth 1999.
[36] Fialka, John. J. "Koch Industries to Pay $30 Million Fine, Largest Under U.S. Environmental Law," *Wall Street Journal*, January 14, 2000.

Citizens Face Obstacles to Bringing Citizen Enforcement Suits

A second reason why polluters continue to violate the law at unacceptably high rates is that court decisions, in addition to inadequate access to information, have limited the ability of citizens to bring citizen enforcement suits against illegal polluters in their communities.

In light of the government inaction described above, citizens in affected communities are often the only parties with the will to take firm action against polluters. Thus citizens are forced to play an important role, filling in the void left by government by taking the most effective enforcement actions against public and private offenders. However, this valuable and important role has been made more difficult for citizens with recent court decisions, beginning particularly with a decision in 1987.

After the total number of citizen suits brought (and won) under the Clean Water Act began to increase in the 1980s, industry began to look for a way out of paying for their pollution. The general counsel of the Chemical Manufacturers Association complained that his members would have contested permit provisions of the Clean Water Act if they had known that their permits were going to be enforced.[37] Their solution: focus on the language of section 505 of the Act, which authorizes suits against any person "alleged to be *in violation*" of the Act.

Using this language, the Supreme Court decided in 1987 that Gwaltney of Smithfield, which operated a meat-packing plant that repeatedly violated its permit for five pollutants including fecal coliform (31 violations), chlorine (34 violations), and total Kjeldahl nitrogen (87 violations), could not be sued for its past violations. This case, *Gwaltney of Smithfield v. Chesapeake Bay Foundation*[38] opened a major loophole to polluters. Because citizens, unlike EPA or the states, are required to provide polluters with 60 days notice of their intent to sue, violators often turn off discharge pipes or install temporary fixes, so that once a suit is filed, the facility is no longer *in* violation. Thus, they avoid litigation under the *Gwaltney* rule. Ironically, despite the fact that on remand a Federal court determined that a violation is not considered ongoing if remedial measures ensure that there is no reasonable prospect for recurrence,[39] the same food processing facility at the center of the debate was later cited by EPA for over 5,000 days of Clean Water Act violations in 5 years.[40] Smithfield was found liable and fined $12.6 million for multiple violations of the Clean Water Act, and the decision to grant summary judgment by the District Court was recently affirmed.[41]

Another barrier to citizen suits is presented by polluters' sweetheart deals with state agencies. The Clean Water Act prevents citizen suits from going forward when the government is "diligently" enforcing the law against a particular polluter, and the courts have perversely interpreted the definition of diligence. For example in *Arkansas Wildlife Federation v. ICI Americas, Inc.*,[42] one of the world's largest chemical companies was fined $1,000 by the state in April 1991 for 30 Clean Water Act violations over four years. When the Arkansas Wildlife Federation (AWF) notified ICI of its intent to sue on those violations and others in July 1991, the state "corrected" its consent order with ICI to cover the violations listed in the notice letter

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[37] Percival, Robert, et. al., *Environmental Regulation: Law, Science, and Policy*, Little, Brown and Company, 1992.
[38] 484 U.S. 49 (1987)
[39] *Chesapeake Bay Foundation v. Gwaltney of Smithfield, Ltd.*, 844 F.2nd 170 (4th Cir. 1998)
[40] *Washington Post*, October 23, 1996
[41] *U.S. v. Smithfield*, 191 F. 3d 516 (4th Cir., 1999)
[42] 842 F. Supp. 1140 (E.D. Ark, 1993), aff'd 29 F. 3d 376 (8th Cir., 1994)

without increasing the fine. AWF filed suit in October 1991, and ICI continued violating its permit while the case was pending. During the next year, the state "amended" the order three times to: include the continuing violations, repeatedly extend the compliance deadline, waive stipulated penalties for past violations, waive in advance penalties for future violations, and suspend ICI's monitoring and reporting obligations. The district court found in 1993 that these actions by the state constituted diligent prosecution and dismissed the citizen suit, a decision later affirmed by an appellate court.

Another disturbing recent trend in the courts is the erosion of citizens' 'standing' to sue. The U.S. Supreme Court has defined standing as comprising three requirements. One, the plaintiff must show that she has suffered an 'injury in fact.' Two, she must establish 'causation,' meaning that the injury "fairly can be traced to the challenged action." Three, she must show that the injury "is likely to be redressed by a favorable decision" of the court.[43] The erosion of standing can be demonstrated by some recent court decisions.

In 1997, a federal appeals court ruled that citizens living along a river in New Jersey and represented by NJPIRG lacked standing under the Clean Water Act to sue a chemical company for discharges into the river resulting in 155 separate permit violations.[44] In 1998, the U.S. Supreme Court ruled in *Steel Company v. Citizens for a Better Environment* that an organization representing citizens living near an industrial plant in Illinois lacked standing to challenge a company's failure, over a period of seven years, to file TRI reports documenting the use and storage of hazardous chemicals at the plant.[45] This ruling came despite the fact that the steel company in question came into compliance only after Citizens for a Better Environment had investigated the company's violations and filed a formal notice of its intent to bring suit.[46]

The most recent case the Supreme Court has heard on this subject is *Friends of the Earth v. Laidlaw Environmental Services*,[47] regarding a hazardous waste incinerator in Roebuck, South Carolina. The polluter here released mercury into the North Tyger River,[48] committing over 1,800 permit violations in all.[49] Even though the polluter came into compliance only during the course of the litigation, the trial court ruled that injunctive relief was no longer necessary.

The United States Court of Appeals for the Fourth Circuit, when looking at the case, made two noteworthy decisions. Extending the decision in the *Steel Company* case mentioned above, the appeals court ruled that the suit had to be dismissed as moot because, even though the incinerator was still discharging excess levels of mercury when the suit was filed in 1992, the operator acquired new anti-pollution equipment and stopped the discharges soon thereafter.[50] Second, the court reversed the trial court's award of lawyers' fees and court costs, becoming the only appellate court to reject the so-called catalyst theory. Thus even though the polluter had only

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[43] *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560-61 (1992)
[44] *Public Interest Research Group v. Magnesium Elektron*, 123 F.3d 111 (3rd Cir. 1997).
[45] *Steel Company v. Citizens for a Better Environment*, 118 S.Ct. 1003 (1998).
[46] Echeverria, John D. and Jon T. Zeidler. *Barely Standing: The Erosion of Citizen "Standing" to Sue to Enforce Federal Environmental Law*, Environmental Policy Project, Georgetown University Law Center, 1999.
[47] *Friends of the Earth, Inc., et al. v. Laidlaw Environmental Services* (TOC), Inc., No. 98—822. Argued October 12, 1999–Decided January 12, 2000.
[48] Glaberson, William "Novel Antipollution Tool Is Being Upset by Courts," *New York Times*, June 5, 1999.
[49] Echeverria and Zeidler, 1999.
[50] Greenhouse, Linda. "High Court Is Urged to Uphold 'Citizen Suit' to Curb Pollution," *New York Times*, October 13, 1999.

come into compliance as a result of the lawsuit (i.e. the suit was the catalyst for compliance), the plaintiffs were entitled to no recovery for the time spent by their attorneys in achieving that result. This undermines the intent of the CWA citizen suit provision by allowing polluting companies to extend citizen suits, thus providing enough time to come into compliance by the time a judgment is entered and avoid liability.

The Supreme Court's ruling was a partial victory for the public and the environment. The Court did rule that, where polluters continue to violate the law after the filing of a complaint, citizens do have standing. But *Laidlaw* only applies where violations continued after the filing of the complaint; otherwise *Steel Company* still applies. The majority opinion argued that civil penalties could redress the plaintiff's harm by deterring the polluter from future violations. However, Justice Stevens's argument that a suit should never be moot so long as civil penalties are still at issue was not joined by any other Justices. In addition, the Court deferred ruling on the question of attorney's fees, noting only that the 4th Circuit issued its ruling in the absence of a trial court decision awarding fees. This ruling, while an important victory, still does not address the lack of standing to sue for past violations.

A further limitation of the ability of citizen suits to enforce the law exists because citizen enforcers are prohibited from bringing penalty actions against the federal government for past violations, which limits enforcement against federal facilities that violate their permits. In 1992 the Supreme Court created a double standard by which private water polluters and local governments are subject to penalties while federal facilities that violate the Clean Water Act get away paying nothing.[51] In the most recent session of Congress, the attack on our environment grew even more outrageous, with the signing into law of a rider, introduced by Senator Ted Stevens (AK), which would exempt defense agencies from payment of fines or penalties for any environmental violation by any military installation unless the payment was "specifically authorized" by Congress.[52] Instead of exempting its own facilities from complying with environmental laws, the government, one of the nation's worst polluters, should be leading the effort for clean and safe water by example.

C. The Public's Right to Know Has Not Been Fully Recognized

Citizen access to information about environmental problems and the polluters that are the source of those problems can be a powerful tool in the fight to preserve our environment and protect our health. The landmark law that first acknowledged not only the public's right to know about toxic chemicals released to our environment, but also the power of that information, was the Emergency Planning and Community Right to Know Act (EPCRA). EPCRA, passed as an amendment to Superfund reauthorization legislation, established the Toxics Release Inventory (TRI), one source of data for this report. EPCRA requires certain industries to report to EPA and to the public their releases of approximately 600 chemicals to the air, land, and water, as well as certain types of waste management involving those chemicals. Perhaps the most crucial aspect of the TRI is that it is made available to the public in a comprehensive, online database.

[51] *State of Ohio v. U.S. Department of Energy*, 112 S.Ct. 1627 (1992).
[52] Editorial. "Reverse Rider," *Washington Post*, November 17, 1999.

Requiring polluting industries to publicly report their hazards provides citizens, communities, and decision-makers with information they need to make informed decisions and to fight pollution. These may include decisions on where to live, where to work, or where to send children to school. At the community level, these may include decisions to file enforcement suits or decisions on strategies for reducing pollution. Information provided in TRI has also provided many citizens' groups with the information they need to convince government officials or industry representatives to take action to reduce pollution (see box on previous page).

Communities Use Right-to-Know Information

Northfield, MN: Using TRI data, labor unions and community groups successfully negotiated a new labor contract to include an agreement to reduce and eliminate the use of methylene chloride, a probable carcinogen.

Arcata, CA: TRI data gave citizens the information they needed to file a citizen suit alleging that a Louisiana-Pacific facility's formaldehyde releases violated California's Prop 65, which requires companies to actively warn citizens about potential exposure to unsafe levels of toxic chemicals.

New York, NY: A facility in Brooklyn had been releasing the chemical toluene in such quantities that residents suffered headaches and nausea. For a citizens' group that had been pushing for government action for 12 years, TRI data provided the final impetus for the state agency to issue tighter regulations.

Source: Working Group on Community Right-to-Know, Working Notes.

By shining a public spotlight on the polluters, right-to-know laws also provide polluting industries with a public incentive to reduce their discharges. Through analysis provided by government, media, and public interest groups, public attention is focused on those facilities and companies who are creating the greatest hazards to public health and the environment through the pollution they release. This attention, in turn, pressures facilities to reduce their pollution (see box at left), even in situations where government may be failing to enforce or tighten permitted pollution limits.

The TRI has been one of the most successful environmental programs, given the reduction in pollution achieved in the absence of new regulatory action by the government. The success of the TRI points to the potential for public information to be used under other laws, such as the Clean Water Act, to be used in achieving the goals of those laws. In addition, the TRI's successes exaggerate its own flaws and gaps and point to the potential for this landmark right-to-know program to move the country closer toward eliminating pollution.

Industries Respond to the Public Pressure Created by Right-to-Know Information

"The law is having an incredible effect on industries to reduce emission, and that's good. There's not a chief executive officer around who wants to be the biggest polluter in Iowa."
Tom Ward, Monsanto's Muscatine, IA facility, *Quad City Times*, June 8, 1990

"We were doing things to reduce emissions because of the TRI program. I'll be honest with you. It probably would not have occurred if that data had not become public information. It was something that caught everyone's attention, including the corporate leaders."
Harold Bozarth, Chemical Industry Council of New Jersey, *Asbury Park Press*, March 28, 1993

"Quite frankly, we want to get off that list."
Joe Fallon, Slater Steels Corporation
Indianapolis Star, April 10, 1990

The Public's Right to Know About Clean Water Enforcement

President Clinton, Vice President Gore, and EPA Administrator Browner have each publicly and repeatedly committed to protecting and expanding the public's right to know, and have made significant expansions of the TRI database of toxic chemical discharges. However, this commitment has not extended to citizens' ability to access discharge information that they not only have the right to know about, but also need to know in order to fight illegal water pollution in their communities.

Accessing Permit and Compliance Information
The most basic problem in this area is that EPA has not made all information from its Clean Water Act Permit Compliance System (PCS) database available on-line to the public. This information, which is already collected and simply needs to be made accessible, would help communities to take action against polluters. Yet despite being organized and easily communicable with the public, it is still not easy to retrieve. The average citizen should not have to file a Freedom of Information Act request and wait several months for data on whether facilities are operating in accordance with the law. In addition, EPA has failed to exercise its authority to post safety warnings at access points to polluted waterways used for fishing and swimming.

Understanding Permit and Compliance Information
A second problem in accessing EPA's data on permits and compliance is our inability to compare that information with other information maintained by EPA. Because the permit compliance system database consists of data gathered under different parameters, we could not determine in this report whether, for a specific facility, the discharge reported to TRI was in compliance with the facility's permit or not. For example, many permits are written in terms of the maximum concentration of a given pollutant allowed in the facility's wastewater stream. The permitted amount may be in parts per million. However, facilities report their estimated discharges to TRI by the number of pounds released over the course of an entire year. A direct comparison is difficult, and on a national level, nearly impossible.

Allowing Polluters to Keep the Public in the Dark
Finally, states are passing "audit privilege" or "immunity" laws that dangerously undermine the public's right to know. Even though most companies are already required to find and correct their own violations under the environmental statutes, audit privilege laws are premised on the notion that companies need an incentive to comply with the law. The incentive provided is the ability to conceal information from law enforcement officials and the public, and to obtain complete penalty immunity for self-reported violations. State audit laws like these promote corporate secrecy and prevent citizens in affected communities from holding corporations accountable for the pollution they create.

The Erosion of Compliance Standards
Finally, the states and EPA allow the erosion of the standards by which compliance is judged. Initiatives such as EPA's Project XL (eXcellence and Leadership) threaten to erode uniform compliance standards and decentralize monitoring and reporting systems to the detriment of both the public's right to know and the enforcement of our environmental laws. The purpose of Project XL is to provide greater regulatory flexibility to industry, often by streamlining reporting and eliminating permit reviews. Some of the XL programs include: a temporary exemption from hazardous waste storage, handling, and shipment rules for Molex Incorporated, an electronics corporation; allowing annual certification to replace monthly reporting for Weyerhaeuser, a large timber and paper company; removing hazardous waste pretreatment requirements for HADCO Corporation, also an electronics corporation; and streamlining hazardous waste removal processes and granting "flexibility" in wetlands mitigation, reporting requirements, and risk assessment criteria and analyses for Exxon.[53]

[53] U.S. EPA. *Project XL: From Pilot to Practice: A Journey to System Change*. September 1999. EPA 100-R-99-007

The Toxics Release Inventory: Successful, but Limited

The TRI has often been called one of the United States' most successful environmental programs. The EPA points to a reduction in reportable on- and off-site releases of more than 40% (for chemicals reported on in all years) since the TRI was first created.[54] While significant decreases were recorded in the first years that the TRI was published, in recent years the decrease has slowed. In fact, 1997 was the first year to show an overall increase (2.2%) in direct releases.[55] As discussed in this report, the increase in releases to waterways between 1996 and 1997 was even more dramatic.

Even for the significant reductions in toxic releases triggered by TRI, most studies have found that some actual reductions have occurred, but that many reported reductions are due to 'phantom' reductions. These include changes in estimation methods or definitions (like that of recycling) which result in fewer toxic releases reported, but not necessarily fewer released. Other false reductions occur when facilities make changes that result in actual reduction in direct releases, but not necessarily in the use of fewer or less toxic chemicals or in the generation of less toxic waste. For example, some facilities may contract highly polluting processes out to other companies, switch to a chemical for which no reporting is required (but may not be any safer), or even incorporate toxic chemicals into products.

The TRI's biggest failure has been in the area of pollution prevention. TRI reporting has focused on 'end-of-the-pipe' toxic releases and on management of toxic waste. This has led industries to respond with measures that allow them to report fewer releases; meanwhile, the generation of toxic waste has steadily increased. Total production-related waste has risen by more than 8% since 1991[56], showing that even though facilities are releasing less waste directly to the environment, more is being generated overall. While the facilities themselves may not release the waste directly to the environment, most of it ends up being disposed of in ways that negatively impact the environment and public health – being discharged by POTWs (as documented in this report), being converted to toxic sludge, or being incinerated, among other waste disposal means.

This means that facilities and regulators are failing to prevent pollution. To truly protect the environment and human health, facilities need to focus on pollution *prevention* – process and product changes that result in less use of toxic chemicals and less generation of toxic waste – rather than on efforts to limit the amount of pollution that reaches the environment once toxic waste has already been produced. One of the simplest ways to promote pollution prevention would be to fill in gaps in the current TRI and to focus reporting on information relevant to pollution prevention.

One reason that facilities have failed to prevent pollution, and ultimately to protect the environment and human health, is that the reporting requirements under the Right to Know Act allow major sources of toxic chemicals to go unreported. In addition they fail to provide the information necessary to accurately track pollution prevention.

Direct releases are under-reported because major industrial polluters are not among the industrial sectors who are required to report. Until a 1997 EPA rulemaking, facilities like mines, utilities, and hazardous waste incinerators are not required to report. Those facilities did not report for the 1997 reporting year, and so are not included in the findings of this report. While toxics reports

[54] U.S. EPA, *1997 Toxics Release Inventory.* 1999.
[55] Ibid.
[56] Ibid. Analysis includes only chemicals which were on the reported list for all years, 1991-1997.

from new industrial sectors will be released in 2000, many polluters will still not be included. Among them are medical waste incinerators and industrial dry cleaners.

In addition, TRI does not include information on facilities' use of toxic chemicals. This type of reporting, often referred to as 'materials accounting,' provides the public and policymakers with information on chemicals brought on-site, including how they are transported through facilities, used in facilities where neighbors or family members may work, and placed in products. In addition, focusing reporting on chemical use focuses reduction efforts on chemical use and pollution prevention.

The State PIRGs worked to pass strong right-to-know laws in Massachusetts and New Jersey, which require materials accounting. The results in Massachusetts show the power of right-to-know and the effectiveness of pollution prevention: facilities there have reduced toxic chemical use by 24%, toxic waste generation by 41%, and toxic chemical releases by 80%.[57] In addition, the pollution prevention resulting from these strong right-to-know laws has shown how process changes resulting in less waste can save corporations money. A 1995 study estimated that for every $1 spent on additional reporting requirements in New Jersey, facilities saved $5-$8 because they spent less on purchasing expensive raw materials and on treating or disposing of hazardous wastes.[58]

V. Conclusions and Recommendations

A. Strengthen Implementation and Enforcement of the Clean Water Act

Now more than 25 years after passage of the Clean Water Act, and with its most basic promises still unfulfilled, it is clear that we need to strengthen enforcement of the law. Unless illegal pollution is stopped and vigorously punished, and legal pollution is phased out by technological improvements, the Act's vision of waters safe enough for fishing and swimming and free of toxic pollutants that threaten our health and our future will never be realized.

The PIRGs have worked hard for over two decades to strengthen enforcement of the Clean Water Act. New Jersey PIRG helped pass the nation's strongest Clean Water Enforcement law in 1990 and CALPIRG helped pass the Clean Water Enforcement and Pollution Prevention Act in the summer of 1999.

Based on experiences with successful policies at the state level, the State PIRGs strongly recommend the following solutions.

1. Set Mandatory Minimum Penalties for Permit Violations

Consistency and deterrence are fundamental components of a successful enforcement program. Non-compliance must be addressed quickly rather than waiting for patterns of chronic violation, something that has been made clear by the state of New Jersey. As a result of the passage of New Jersey's Clean Water Enforcement Act, which requires mandatory minimum penalties for the worst polluters, the state now has one of the lowest percentages of facilities in SNC in the country. In addition, swift, consistent and predictable enforcement in New Jersey has deterred

[57] Massachusetts Department of Environmental Protection, press release, 1999.
[58] U.S. EPA, *Report to President Clinton – Expansion of Community Right-to-Know Reporting to Include Chemical use Data: Phase III of the Toxics Release Inventory*.

dischargers from allowing compliance problems to become chronic, resulting in a decrease in the number of penalty actions and the amount of penalties assessed.

Congress should make government enforcement programs more credible, consistent, effective, and equitable by amending the Clean Water Act to require state programs to establish mandatory minimum penalties for significant violations of the Act. Mandatory minimum penalties will help ensure that polluters, not taxpayers, pay for the damage they create. The worst polluters should know that there will be repercussions for breaking the law, and Congress should consider revoking NPDES permits for repeat offenders.

2. Prohibit Profits From Polluting

The existing Clean Water Act allows "economic benefits" to be taken into consideration when assessing penalties. Unfortunately this authority is greatly underutilized; penalties rarely recover the profits companies gain from their noncompliance. In other words, under current Clean Water enforcement practices, it pays to pollute illegally, which creates incentives to break the law, allows states and violators to cut sweetheart deals, and places those who comply with the law at a competitive disadvantage.

Congress should amend the Act and create a strong disincentive to break the law. In order to do this, courts and administrative hearing officers must assess a penalty that exceeds the amount of economic benefit gained by the polluter as the result of its non-compliance. To assist in this effort, any state with an authorized Clean Water Act program should be required to collect and report all fines levied and collected against polluters so that there will be accountability in the system.

3. Remove Current Obstacles to Citizen Suits

Citizens Should Be Able to Sue For Past Violations

Congress should amend the Clean Water Act to allow citizens to sue for past violations. Congress amended the Clean Air Act in 1990 to allow citizens to commence an action against any person "who is alleged to have violated, if there is evidence that the alleged violation has been repeated, or to be in violation" of the Act. We urge Congress to similarly amend the Clean Water Act, thus harmonizing the two statutes and remedying the effects of *Gwaltney*.

Citizen Suits Should Not Be Precluded by Inadequate Government Enforcement Actions

Citizens should not be barred from bringing actions against polluters by a loophole in the law that allows sweetheart deals between violators and government regulators. Congress should amend the CWA by deleting the provision that allows certain government enforcement actions to preclude citizen enforcement. In addition, Congress should explicitly clarify that only judicial or enforcement actions that recoup the full economic benefit gained by violating the law should be allowed to preclude subsequent citizen enforcement. At the same time, to ensure that defendants will not be penalized unduly for the same violation, the Act should be amended to allow courts to offset penalties imposed in a prior enforcement action.

Citizens Should Be Able to Bring Penalty Actions Against Polluting Federal Facilities

Federal facilities that pollute illegally should be subject to the same enforcement pressures as other facilities. Congress should explicitly waive the federal government's sovereign immunity and specifically authorize citizens, as well as EPA and the states, to bring penalty actions against federal facilities for past violations.

4. Expand Whistleblower Protections

The best source of information about what a facility is actually doing or not doing is often its own employees. However, for employees to provide information, they must be assured that they will not lose their jobs or otherwise suffer retaliation by the polluter.

However, the whistleblower provisions in the Clean Water Act provide only limited protection to employees. Congress should amend the Act by extending the statute of limitations from 30 days to one year, amending the burden of proof to make it uniform with the burden of proof provided federal employees pursuant to the Whistleblower Protection Act, and requiring posting of employee rights by CWA permittee.

B. Expand the Public's Right to Know

Public access to information on pollution problems is a powerful catalyst for reducing pollution. Congress should take action to: increase citizen access to Clean Water Act permit and compliance information; expand the TRI to include all sources of toxic pollution and information on the use of toxic chemicals; and integrate the information gathered under various environmental programs so that citizens can make meaningful comparison, better understand the problems facing our environment, and take action to solve those problems. Legislation currently before Congress, H.R. 1657, would expand the information currently gathered under TRI to include chemical use or 'materials accounting' information.

1. Increase Access to Compliance Data and Discharge Reporting

Access to accurate and consistent reporting is fundamental to the success of the Clean Water Act's permitting and enforcement programs. Without it, protection of our waterways is impossible. Congress should amend the Clean Water Act by requiring that:

(a) all "major" facilities discharging to ground waters, surface waters, or treatments works facilities must submit discharge monitoring reports (DMRs) on a monthly basis; other permit holders must submit DMRs on at least a quarterly basis, and states should be required to input this data into the EPA Permit Compliance System;
(b) all Significant Industrial Users of Publicly Owned Treatment Works (POTWs) must file DMRs monthly with the treatment works, states, and EPA regional offices, and states should be required to input this data into the EPA Permit Compliance System;
(c) EPA must make compliance data on its computerized Permit Compliance System database easily available to the public, including online Internet access which should be searchable by facility and location in a national database format;
(d) EPA should integrate environmental reporting and access to environmental data across different programs so that citizens can more easily determine various environmental conditions relevant to their geographic area or to a particular facility.

2. Expand right-to-know reporting to include toxic chemical use information.

Currently the public only receives information on toxic chemical releases to the environment and certain types of toxic waste management. The public is left in the dark about chemicals used in the workplace, transported through communities, and placed in products we buy. Without this chemical use, or "materials accounting" information, the public is kept in the dark, industry will miss many valuable opportunities to significantly lower pollution costs, and public policy makers will be unable to create strategies that will most effectively prevent toxic chemical hazards.

3. Require reporting to the Toxics Release Inventory from all significant sources of toxic pollution, including sewage treatment plants, medical and solid waste incinerators, and the oil and gas industry.

The Clinton Administration has made some significant expansions to the public's right to know by adding seven new industries to the Toxics Release Inventory, including hazardous waste treatment facilities, sections of the mining industry, and utilities (a major source of mercury pollution in our waters). However, many other significant sources of water pollution are still exempt from reporting requirements, including sewage treatment plants, medical and solid waste incinerators, and the oil and gas industry.

4. Lower reporting thresholds for *all* toxic substances which persistent in the environment *or* accumulate up the food chain or in human tissues.

The Clinton Administration in October 1999 issued regulations lowering the reporting thresholds that have let releases of many of the most dangerous substances, used and released in small but dangerous quantities, go unreported in the past. The regulations cover toxic chemicals that have a tendency to persist in the environment and bioaccumulate as they move up the food chain, and as such are extremely dangerous in very small quantities. Unfortunately, the regulations cover only substances which both persist *and* bioaccumulate, neglecting dangerous substances like cadmium, which are highly toxic and persistent, but which may not accumulate up the food chain. In addition, the regulations do not yet apply to lead and lead compounds – highly toxic substances that both persist *and* bioaccumulate. The EPA is currently developing rules that will lower thresholds for lead, but the process has been delayed twice. We urge the EPA to swiftly finalize regulations requiring industries to report all releases of lead and lead compounds and to act to require complete reporting on environmental releases of other persistent bioaccumulative substances not covered by the October 1999 rulemaking.

Appendix A:

Toxic Discharge Data Tables

Table 1

Total Direct and Indirect Toxic Releases to Water, 1995-1997

Year	Direct releases (lbs)	Indirect releases (lbs)	Total releases (lbs)
1995	175819177	51195812	227014989
1996	179229835	47428830	226658665
1997	**218423778**	**50710555**	**269134333**

Table 2

Total Releases to Water of Carcinogens, Reproductive Toxins, and Persistent Toxic Metals (incl. estimated discharges through POTWs)

Type	Total releases (lbs) 1995	Total releases (lbs) 1996	Total releases (lbs) 1997	Percent of lbs from POTWs 1997
OSHA Carcinogens	2,775,565	2,790,503	**2,564,959**	52.3
Prop 65 Reproductive Toxins	658,312	535,797	**425,685**	53.9
Persistent Toxic Metals	4,364,835	5,369,466	**8,092,212**	12.7
All special toxic categories	7,397,049	8,331,756	**10,718,011**	22.7
All TRI chemicals	227,014,989	226,658,665	**269,134,333**	18.8

Note: Some chemicals fall into more than one category (e.g. are both reproductive toxins and carcinogens). Because theses are included in each category total but are only counted once in the total for all specal toxic categories, the total for all categories does not equal the sum of each category.

Source: U.S. PIRG, Compiled from the U.S. EPA's 1997 Toxics Release Inventory.

Table 3

Water Bodies Receiving the Largest Discharges of Toxic Chemicals

Rank	Receiving waters	States	Toxic release (lbs) 1997	Percent of lbs from POTWs 1997
1	Mississippi River	AR, IA, IL, KY, LA, MN, MO, MS	57,698,880	2.9
2	Connoquenessing Creek	PA	29,809,300	0
3	Brazos River	TX	14,366,370	0
4	Ohio River	IL, IN, KY, OH, PA, WV	9,394,678	13
5	Alafia River	FL	7,047,663	0
6	Houston Ship Channel	TX	6,868,275	85.2
7	Cape Fear River	NC	4,825,901	0
8	Savannah River	GA, SC	4,771,110	1
9	Delaware River	DE, NJ, PA	4,378,209	14.1
10	Rock River, IL	IL	3,818,291	0
11	Schuylkill River	PA	3,558,161	0
12	Canal -- UNNAMED INDUSTRIAL CANAL (state: TX)	TX	3,139,790	0
13	Willamette River	OR	2,982,633	1.8
14	Hudson River	NJ, NY	2,861,894	9.4
15	Kanawha River	WV	2,500,552	0
16	Pacific Ocean	CA, HI, OR	2,181,424	25.2
17	Tennessee River	AL, KY, TN	2,147,554	1.1
18	Muskingum River	OH	2,069,438	0
19	Columbia River	OR, WA	1,859,047	47.3
20	Raritan River	NJ	1,818,400	100
21	Big Sioux River	SD	1,811,575	0.6
22	Gravelly Run	VA	1,662,429	88.9
23	Little Attapulgus Creek	GA	1,651,075	0
24	Fox River, WI	WI	1,604,257	2.9
25	Morses Creek	NJ	1,600,004	0
26	Kiskiminetas River	PA	1,549,075	3
27	Cedar River	IA	1,372,282	37.5
28	Illinois River	IL	1,361,999	73.9
29	Curtis Bay	MD	1,309,261	0
30	Snake River	ID, OR	1,263,681	0.9
31	Wisconsin River	WI	1,260,502	0
32	Bachman Run	PA	1,257,830	100
33	Big Blue River	IN, MO, NE	1,219,431	0
34	Utah Lake	UT	1,213,779	0
35	Detroit River	MI	1,197,665	96.4
36	James River, VA	VA	1,135,614	0
37	New York Harbor	NJ	1,135,338	100
38	Tombigbee River	AL	1,129,130	0
39	Pagan River	VA	1,064,298	0
40	Okatoma Creek	MS	1,042,400	0
41	Iowa River	IA	996,765	0
42	Unknown - POTW release in Lake Norden, SD	SD	984,658	100
43	Oak Creek, OR	OR	965,000	0
44	Lake Erie	NY, OH, PA	949,146	63.1
45	Nimishillen Creek	OH	943,922	0
46	New River, VA	VA	879,925	0
47	Yazoo River	MS	872,088	0
48	Center Creek	MO	828,802	0
49	Carquinez Strait	CA	820,935	0
50	Allegheny River	PA	805,082	0

Source: U.S. PIRG, Compiled from EPA's 1997 Toxics Release Inventory. Unless otherwise indicate, figures include estimated discharges through POTWs.

Table 4

States With the Largest Toxic Releases to Waterways in 1997

Rank	State	Total releases (lbs) 1997	Percent of lbs from POTWs 1997
1	Louisiana	46,991,144	0.2
2	Pennsylvania	40,713,054	5.4
3	Texas	27,833,927	25.3
4	Mississippi	12,022,166	0.6
5	Ohio	9,798,549	38.1
6	Florida	9,735,503	11.3
7	New Jersey	9,130,836	40.9
8	Georgia	8,208,989	12.5
9	North Carolina	7,400,967	12.7
10	Illinois	7,392,747	34.3
11	California	7,240,874	41
12	West Virginia	7,189,617	5.8
13	Virginia	6,100,174	36.7
14	New York	5,539,367	21.2
15	Oregon	5,378,815	20.7
16	Missouri	5,248,477	36.5
17	Alabama	5,026,111	5.3
18	Wisconsin	4,978,900	40.3
19	South Carolina	4,129,213	35.9
20	Iowa	4,123,227	36.5
21	Indiana	3,394,437	31.9
22	Michigan	3,263,676	83.8
23	South Dakota	2,819,344	36.2
24	Washington	2,768,155	11
25	Tennessee	2,641,406	40.6
26	Maryland	2,392,639	15.3
27	Minnesota	2,065,114	84.3
28	Arkansas	1,851,915	2.8
29	Kentucky	1,366,017	51
30	Utah	1,342,709	8.4
31	Idaho	1,321,069	14.6
32	Colorado	1,191,392	22.1
33	Connecticut	1,117,623	40
34	Kansas	1,040,800	45.1
35	Maine	1,030,804	3.3
36	Oklahoma	951,725	24.8
37	Nebraska	784,168	30.7
38	Massachusetts	685,921	92.8
39	Delaware	673,703	65.9
40	North Dakota	552,962	20.5
41	Puerto Rico	373,007	95.3
42	Alaska	333,613	0
43	Arizona	290,258	98.4
44	New Hampshire	210,365	45.4
45	Vermont	189,417	0.2
46	Montana	97,358	0.2
47	Rhode Island	84,409	97.4
48	New Mexico	50,112	83.9
49	Virgin Islands	25,723	0
50	Nevada	9,406	100
51	Wyoming	7,518	0.4
52	Hawaii	2,119	0
53	District Of Columbia	228	97.8

Source: U.S. PIRG, compiled from EPA's 1997 Toxics Release Inventory. Figures include estimated discharges through POTWs.

Table 5

Facilities Releasing the Largest Amounts of Toxics to Water in 1997.

Rank	Facility Name	City	State	Total releases (lbs) 1997	Percent of lbs from POTWs 1997
1	PCS Nitrogen Fertilizer L.P.	Geismar	LA	29,775,103	0
2	Armco Inc. Butler Ops.	Butler	PA	26,004,479	0
3	BASF Corp.	Freeport	TX	14,011,739	0
4	Vicksburg Chemical Co.	Vicksburg	MS	8,139,102	0
5	Mulberry Phosphates Inc.	Mulberry	FL	7,046,420	0
6	IMC-Agrico Co. Faustina Plant	Saint James	LA	4,982,487	0
7	Exxon Co. USA Baton Rouge	Baton Rouge	LA	4,100,844	0
8	IBP Inc.	Joslin	IL	3,800,505	0
9	Armco Inc. Butler Ops.	Butler	PA	3,800,377	0
10	Smithfield Packing Co. Inc.	Tar Heel	NC	3,683,194	0
11	Carpenter Tech. Corp.	Reading	PA	3,243,035	0
12	Bayer Corp.	New Martinsville	WV	3,206,967	0
13	Air Prods. Inc.	Pasadena	TX	3,160,857	100
14	Bayer Corp. Baytown	Baytown	TX	3,139,790	0
15	Du Pont Chambers Works	Deepwater	NJ	3,086,517	0
16	IMC-Agrico Co. Uncle Sam Plant	Uncle Sam	LA	2,555,826	0
17	Finch Pruyn & Co. Inc.	Glens Falls	NY	2,464,200	0
18	DSM Chemicals N.A. Inc.	Augusta	GA	2,417,169	0
19	Du Pont Belle Plant	Belle	WV	2,412,000	0
20	Armco Inc. Coshocton Ops.	Coshocton	OH	2,016,573	0
21	John Morrell & Co.	Sioux Falls	SD	1,802,925	0.2
22	IBP Inc.	Columbus Junction	IA	1,710,500	0
23	J & L Specialty Steel Inc.	Midland	PA	1,700,309	0
24	Engelhard Corp. Attapulgus	Attapulgus	GA	1,651,075	0
25	Bayway Refining Co.	Linden	NJ	1,600,004	0
26	Louisiana-Pacific Corp. Samoa	Samoa	CA	1,528,210	0
27	Allegheny Ludlum Corp.	Leechburg	PA	1,502,110	0
28	BASF Corp.	Geismar	LA	1,402,410	0
29	Fort James Operating Co.	Green Bay	WI	1,400,250	0
30	Grace Davison	Baltimore	MD	1,309,261	0
31	Hercules Inc. Aqualon Div.	Parlin	NJ	1,295,881	100
32	Wacker Siltronic Corp.	Portland	OR	1,295,182	0.6
33	Williamsport Wirerope Works	Williamsport	PA	1,258,080	100
34	Geneva Steel	Vineyard	UT	1,213,779	0
35	Wah Chang Albany	Albany	OR	1,106,487	0
36	Allegheny Ludlum Corp.	New Castle	IN	1,104,810	0
37	Smithfield Packing Co. Inc.	Smithfield	VA	1,067,030	0.3
38	Sanderson Farms Inc.	Collins	MS	1,042,400	0
39	Engelhard Corp. Savannah Ops.	Savannah	GA	1,012,787	0
40	Davisco Lake Norden Food	Lake Norden	SD	984,658	100
41	Oregon Metallurgical Corp.	Albany	OR	965,000	0
42	J & L Specialty Steel Inc.	Louisville	OH	940,218	0
43	U.S. Army Radford Army	Radford	VA	859,208	0
44	BWX Techs.	Lynchburg	VA	858,876	0
45	Hercules Inc.	Hopewell	VA	858,717	100
46	Dyno Nobel	Carthage	MO	828,802	0
47	Shell Martinez Refining Co.	Martinez	CA	820,930	0
48	Mississippi Chemical Corp.	Yazoo City	MS	795,942	0
49	Elkem Metals Co.	Marietta	OH	784,000	0
50	Syntex Agribusiness Inc.	Springfield	MO	781,672	100

Source: U.S. PIRG, Compiled from EPA's 1997 Toxics Release Inventory. Figures include estimated discharges through POTWs.

Table 6

Parent Companies Releasing the Most Toxics to Water in 1997

Rank	Parent company	Total releases (lbs) 1997	Percent of lbs from POTWs 1997
1	Armco Inc.	31,875,913	0
2	PCS Nitrogen Fertilizer LP	30,451,913	0.1
3	BASF Corp.	16,192,599	1.8
4	E. I. Du Pont De Nemours & Co. Inc.	8,682,727	2.3
5	Vicksburg Chemical Co.	8,139,102	0
6	IMC-Agrico Co.	7,613,323	0
7	Mulberry Corp.	7,046,420	0
8	Smithfield Foods Inc.	6,948,289	4.7
9	Bayer Corp.	6,694,359	3.5
10	IBP Inc.	5,983,902	1.1
11	Allegheny Teledyne Inc.	5,599,615	0.9
12	Exxon Corp.	5,141,109	0.1
13	Air Prods. & Chemicals Inc.	3,531,092	90.1
14	Carpenter Tech. Corp.	3,260,653	0.5
15	J & L Specialty Steel Inc.	2,790,634	5.4
16	Engelhard Corp.	2,727,152	2.3
17	Georgia-Pacific Corp.	2,688,358	1.6
18	GMC	2,569,272	89.6
19	International Paper Co.	2,528,470	11.6
20	Finch Pruyn & Co. Inc.	2,464,200	0
21	DSM Chemicals Holding Co. Inc.	2,417,169	0
22	Hercules Inc.	2,222,798	99.5
23	Fort James Operating Co.	2,206,361	0
24	Sanderson Farms Inc.	2,195,343	0.2
25	Tosco Refining Corp.	2,132,295	3.7
26	Shell Oil Co.	1,917,900	0.1
27	Louisiana-Pacific Corp.	1,785,777	0
28	Dyno Nobel Inc.	1,515,204	0
29	W. R. Grace & Co.	1,349,080	1
30	Wacker Siltronic Corp.	1,295,182	0.6
31	Eastman Kodak Co.	1,292,029	5.2
32	Williamsport Wirerope Works Inc.	1,258,080	100
33	Geneva Steel	1,213,779	0
34	Stone Container Corp.	1,171,179	82.6
35	GE Co.	1,160,156	40
36	Amoco Corp.	1,142,384	1.7
37	U.S. Department Of Defense	1,140,378	0.8
38	Boise Cascade Corp.	1,076,478	66.5
39	Davisco Foods Intl. Inc.	984,658	100
40	Mccain Foods Ltd.	894,936	0
41	Kimberly-Clark Corp.	892,565	0
42	Mississippi Chemical Corp.	889,104	0
43	Chevron Corp.	884,750	0.2
44	Mcdermott Intl. Inc.	858,876	0
45	Weyerhaeuser Co.	852,424	0
46	Champion Intl. Corp.	840,061	0
47	Gold Kist Inc.	803,426	1.2
48	Elkem Metals Co.	784,000	0
49	Syntex USA Inc.	781,839	100
50	Temple-Inland Inc.	758,418	0

Source: U.S. PIRG, Compiled from EPA's 1997 Toxics Release Inventory. Figures include estimated discharges through POTWs.

Table 7

Chemical Discharged in the Largest Amounts to U.S. Waters in 1997

Rank	Chemical Name	Reason for Concern	Total releases (lbs) 1997	Percent of lbs from POTWs 1997
1	Nitrate compounds	1	156,260,860	4.7
2	Phosphoric acid	1	47,637,698	8.7
3	Methanol	1	14,044,416	50
4	Ammonia	1	12,810,373	44.8
5	Glycol ethers	1	9,308,254	96.4
6	Nitric acid	1	4,828,531	91.3
7	Manganese compounds	1,3	4,447,113	5.4
8	Ethylene glycol	1	2,839,891	77.5
9	Hydrochloric acid	1	2,077,297	99.9
10	Zinc compounds	1,3	1,340,824	10.2
11	Sodium nitrite	1	1,237,292	61.1
12	Sulfuric acid	1	1,137,484	97.9
13	Barium compounds	1,3	1,026,674	8.4
14	Chlorine	1	879,774	65.8
15	Bromine	1	780,805	100
16	Hydrogen fluoride	1	524,857	94
17	tert-Butyl alcohol	1	515,500	94.3
18	Formaldehyde	1,2	436,805	43.5
19	N,N-Dimethylformamide	1,2	370,998	87.7
20	1,4-Dioxane	1,2	336,417	41.7
21	Manganese	1,3	331,933	55.5
22	Acetaldehyde	1,2	280,653	20.4
23	Diethanolamine	1	278,963	46
24	Phenol	1	277,754	80.5
25	Chloroform	1,2	271,825	39.4
26	Methyl tert-butyl ether	1	271,481	39.7
27	Formic acid	1	252,374	86.1
28	n-Butyl alcohol	1	239,585	66.7
29	Cyanide compounds	1	238,554	72.6
30	N-Methyl-2-pyrrolidone	1	157,946	82.3
31	Copper compounds	1,3	157,787	32.9
32	Chromium compounds	1,3	152,847	34.9
33	Nickel compounds	1,2,3	151,855	38.5
34	Molybdenum trioxide	1	144,342	72.5
35	Acetonitrile	1	139,722	94.7
36	Triethylamine	1	127,193	85.5
37	Dichloromethane	1,2	119,264	92
38	1,3-Phenylenediamine	1	116,838	10.9
39	Aniline	1,2	100,893	88.9
40	Antimony compounds	1,3	98,495	72.3
41	Methyl ethyl ketone	1	90,403	53.8
42	Copper	1,3	88,652	54.4
43	Cyclohexane	1	82,124	1.7
44	m-Dinitrobenzene	1,4	81,587	0
45	Propylene oxide	1,2	71,644	68
46	2-Methoxyethanol	1,4	68,134	76.5
47	Nickel	1,2,3	65,297	61.8
48	N,N-Dimethylaniline	1	62,817	97.8
49	Carbon disulfide	1,4	61,534	53.4
50	Toluene	1,4	61,247	49.4

Reason for Concern: 1 = Meets EPA's TRI Toxicity criteria
2 = Known, possible, or probable carcinogen
3 = Persistent toxic metal
4 = Reproductive toxin

Source: U.S. PIRG, Compiled from EPA's 1997 Toxics Release Inventory. Figures include discharges through POTWs.

Table 8

Water Bodies Receiving the Most Discharges of Persistent Toxic Metals, 1997

Rank	Water Body	States	Total releases (lbs) 1997	Percent of lbs from POTWs 1997
1	Ohio River	IL, IN, KY, OH, PA, WV	641,150	7.1
2	Mississippi River	AR, IA, IL, KY, LA, MN, MO, MS, TN, WI	580,764	7.8
3	Alabama River	AL	488,424	0
4	Lake Erie	NY, OH, PA	365,481	5.8
5	Savannah River	GA, SC	312,596	0
6	Tennessee River	AL, KY, TN	271,357	0
7	Red River, AR	AR	243,000	0
8	Androscoggin River	ME, NH	211,571	0
9	Coosa River	AL, GA	192,699	0.1
10	Catawba River	NC, SC	171,616	0.2
11	St. Croix River	ME, WI	169,400	0
12	Patapsco River	MD	156,562	0
13	Neches River	TX	149,065	0
14	Kickapoo Creek	IL	146,761	100
15	Sulphur River	TX	135,461	0
16	Pearl River	LA, MS	113,556	0
17	Genesee River	NY	111,330	0
18	Eleven Mile Creek	FL	111,000	0
19	Wateree River	SC	100,007	0
20	Tombigbee River	AL	98,675	0
21	Mobile River	AL	95,402	0
22	Columbia River	OR, WA	81,567	2
23	Willamette River	OR	80,669	0.1
24	Houston Ship Channel	TX	76,501	9.4
25	Great Pee Dee River	SC	76,497	0
26	Grays Harbor	WA	75,400	0
27	Bellingham Bay	WA	74,812	0
28	Cooper River	SC	73,531	0
29	Pigeon River	NC, TN	69,199	0
30	Tennessee Tombigbee Waterway	MS	67,962	0
31	Hudson River	NJ, NY	62,529	3.3
32	Staulkinghead Creek	LA	59,670	0
33	Chattahoochee River	AL, GA	53,548	1.7
34	Thames River	CT	52,692	0
35	Roanoke River	NC, VA	52,472	0
36	Pacific Ocean	CA, HI, OR	52,212	50.2
37	Black Creek, AL	AL	51,800	0
38	Unknown - POTW release in St. Paul, MN	MN	47,707	100
39	Fenholloway River	FL	47,300	0
40	Sampit River	SC	46,090	0
41	Chesapeake Bay	MD	43,376	100
42	Paper Mill Creek	TX	42,593	0
43	Wabash River	IL, IN, OH	42,144	6.5
44	Menominee River	MI, WI	39,126	0
45	Garland Creek, OK	OK	37,053	0
46	Harmon Creek	WV	36,612	0
47	Utoy Creek	GA	35,000	0
48	Unknown - POTW release in Tyndall Air Force Base,	FL	33,873	100
49	Escatawba River	MS	33,568	0
50	Delaware River	DE, NJ, PA	31,035	20.7

Source: U.S. PIRG, Compiled from EPA's 1997 Toxics Release Inventory. Figures include estimated discharges through POTWs.

Table 9

Facilities Discharging the Largest Amounts of Persistent Toxic Metals

Rank	Facility Name	City	State	Water Body	Total releases (lbs) 1997
1	Elkem Metals Co.	Marietta	OH	Ohio River	453,000
2	Georgia-Pacific Corp. Port	Zachary	LA	Mississippi River	260,000
3	International Paper Riverdale	Selma	AL	Alabama River	247,100
4	Champion Intl. Courtland Mill	Courtland	AL	Tennessee River	246,000
5	Georgia-Pacific Ashdown Ops.	Ashdown	AR	Red River, AR	243,000
6	Millennium Inorganic	Ashtabula	OH	Lake Erie	200,000
7	International Paper Augusta	Augusta	GA	Savannah River	170,740
8	Georgia-Pacific Corp.	Woodland	ME	St. Croix River	169,400
9	Bowater Inc. Coated Paper &	Catawba	SC	Catawba River	168,208
10	Millennium Inorganic	Baltimore	MD	Patapsco River	150,000
11	Anamet Electrical Inc.	Mattoon	IL	Kickapoo Creek	146,760
12	Inland Eastex	Evadale	TX	Neches River	145,600
13	Mellennium Inorganic	Ashtabula	OH	Lake Erie	140,000
14	International Paper Co.	Domino	TX	Sulphur River	135,461
15	International Paper	Jay	ME	Androscoggin River	134,800
16	PCS Nitrogen Fertilizer L.P.	Geismar	LA	Mississippi River	129,600
17	Alabama River Pulp Co. Inc.	Perdue Hill	AL	Alabama River	122,000
18	Georgia-Pacific Corp.	Monticello	MS	Pearl River	112,896
19	Eastman Kodak Co. Kodak Park	Rochester	NY	Genesee River	111,330
20	Champion Intl. Corp.	Cantonment	FL	Eleven Mile Creek	111,000
21	Inland Paperboard & Packaging	Rome	GA	Coosa River	110,650
22	Union Camp Corp.	Eastover	SC	Wateree River	99,600
23	Kemira Pigments Inc.	Savannah	GA	Savannah River	90,700
24	Weirton Steel Corp.	Weirton	WV	Ohio River	84,721
25	U. S. Alliance Coosa Pines	Coosa Pines	AL	Coosa River	81,400
26	Gulf States Paper Corp.	Demopolis	AL	Tombigbee River	80,800
27	Crown Paper Co. Berlin Mill	Berlin	NH	Androscoggin River	76,770
28	International Paper Mobile	Mobile	AL	Mobile River	75,500
29	Weyerhaeuser Pulp Mill	Cosmopolis	WA	Grays Harbor	75,400
30	Weyerhaeuser Co.	Longview	WA	Columbia River	75,354
31	Georgia-Pacific West Inc.	Bellingham	WA	Bellingham Bay	74,812
32	Champion Intl. Corp.	Canton	NC	Pigeon River	69,170
33	Macmillan Bloedel Packaging	Pine Hill	AL	Alabama River	61,600
34	International Paper Co.	Bastrop	LA	Staulkinghead Creek	59,670
35	Columbus Pulp & Paper Complex	Columbus	MS	Tennessee Tombigbee Waterway	59,350
36	Smurfit Newsprint Corp.	Newberg	OR	Willamette River	59,210
37	Union Camp Corp.	Prattville	AL	Alabama River	57,000
38	Great Southern Paper Co.	Cedar Springs	GA	Chattahoochee River	52,620
39	Pfizer Inc. Groton Site	Groton	CT	Thames River	52,500
40	Gulf States Steel Inc.	Gadsden	AL	Black Creek, AL	51,800
41	Union Camp Corp.	Savannah	GA	Savannah River	50,700
42	Champion Intl. Corp.	Roanoke Rapids	NC	Roanoke River	47,400
43	Buckeye Florida L.P.	Perry	FL	Fenholloway River	47,300
44	Champion Intl. Corp.	East Houston	TX	Houston Ship Channel	47,160
45	Crown Paper Co.	Saint Francisville	LA	Mississippi River	47,000
46	International Paper Co.	Georgetown	SC	Sampit River	46,090
47	Willamette Ind. Inc. Marlboro	Bennettsville	SC	Great Pee Dee River	45,535
48	Finch Pruyn & Co. Inc.	Glens Falls	NY	Hudson River	44,200
49	Twin City Tanning Co. LLP	South Saint Paul	MN	Unknown - POTW release in St. Paul, MN	43,134
50	Westvaco Corp. Kraft Div.	North Charleston	SC	Cooper River	42,900

Source: U.S. PIRG, Complied from EPA's 1997 Toxics Release Inventory. Figures include estimated discharges through POTWs.

Table 10

States With the Largest Releases of Persistent Toxic Metals in 1997

Rank	State	Total releases 1997 (lbs)	Percent of lbs from POTWs 1997
1	Alabama	1,125,091	0.7
2	Ohio	946,970	8.5
3	Georgia	594,588	5.1
4	Louisiana	562,679	0.1
5	South Carolina	501,891	5.5
6	Texas	484,761	4.8
7	Maine	334,117	5
8	Arkansas	281,929	2.2
9	Mississippi	270,975	0.8
10	New York	261,869	24.6
11	Maryland	259,072	21.6
12	Illinois	252,843	83.1
13	Washington	249,679	0.4
14	Florida	224,939	16.4
15	North Carolina	168,405	9.7
16	Indiana	167,084	32.7
17	Pennsylvania	141,532	18.5
18	West Virginia	130,991	1.5
19	Michigan	120,543	39.3
20	Oregon	110,921	2.8
21	Kentucky	97,631	19.9
22	Minnesota	96,461	61.7
23	Tennessee	92,899	25.1
24	New Hampshire	78,127	1.2
25	Wisconsin	75,443	39
26	Connecticut	63,857	6.2
27	Virginia	61,742	30.7
28	Missouri	50,775	87.8
29	California	48,550	73.7
30	Oklahoma	46,009	12.8
31	New Jersey	37,358	54.1
32	Delaware	32,716	7.1
33	Iowa	26,115	78.9
34	Nebraska	20,200	19.1
35	Utah	14,627	21.1
36	Massachusetts	13,144	89.8
37	Idaho	8,771	1.7
38	New Mexico	8,223	2.1
39	Colorado	6,254	29.1
40	Kansas	5,225	60
41	Montana	5,110	1.7
42	Vermont	4,203	1.6
43	Rhode Island	3,733	93.5
44	Arizona	1,873	97.7
45	Puerto Rico	1,684	48.8
46	South Dakota	224	97.8
47	District Of Columbia	223	100
48	North Dakota	37	8.1
49	Hawaii	10	0
50	Wyoming	6	100
51	Nevada	0	0

Source: U.S. PIRG, compiled from EPA's Toxics Release Inventory. Figures include estimated discharges through POTWs.

Table 11

Bodies of Water Receiving the Largest Amounts of Reproductive Toxins

Rank	Water Body	States	Total releases (lbs) 1997	Percent of lbs from POTWs 1997
1	Delaware River	DE, NJ, PA	92,548	10.3
2	Hudson River	NJ, NY	41,039	99.7
3	New York Harbor	NJ	30,721	100
4	Unknown - POTW release in Mentor, OH	OH	29,757	100
5	Calcasieu River	LA	23,135	0
6	Illinois River	IL	22,379	92.7
7	Houston Ship Channel	TX	17,879	96.3
8	Ohio River	IL, IN, KY, OH, PA, WV	12,466	3
9	San Jacinto Bay	TX	10,318	0
10	Mississippi River	AR, IA, IL, KY, LA, MN, MO, MS, TN, WI	9,590	40.4
11	Tombigbee River	AL	8,698	0
12	Bouie River	MS	6,905	0
13	Trinity River	TX	6,760	100
14	Unknown - POTW release in San Diego, CA	CA	6,386	100
15	Unknown - POTW release in Loudon, TN	TN	6,158	100
16	Congaree River	SC	5,800	0
17	Appomattox River	VA	5,544	100
18	Maumee Bay	OH	4,709	0
19	Pacific Ocean	CA, HI, OR	4,607	100
20	Vermillion River	IL	4,591	100
21	Unknown - POTW release in Plymouth, MA	MA	4,494	100
22	Mobile River	AL	3,849	0
23	Unknown - POTW release in Kansas City, KS	KS	3,666	100
24	Dixon Creek	TX	3,455	0
25	Unknown - POTW release in Tonawanda, NY	NY	3,336	100
26	Atlantic Ocean	ME, PR, RI	3,106	100
27	Holston River	TN	2,333	0
28	Unknown - POTW release in Greenville, SC	SC	2,175	100
29	Merrimack River	MA, NH	2,064	100
30	Kanawha River	WV	1,961	0
31	Grand Calumet River	IN	1,800	0
32	Detroit River	MI	1,645	63.5
33	Unknown - POTW release in Salt Lake City, UT	UT	1,612	100
34	Unknown - POTW release in West Deptford, NJ	NJ	1,469	100
35	Gravelly Run	VA	1,404	15.6
36	Arkansas River	AR, CO, KS, OK	1,284	0
37	Allegheny River	PA	1,176	0
38	Boston Harbor	MA	1,173	100
39	Great Miami River	OH	1,170	100
40	Cumberland River	TN	1,100	0
41	Red Draw Reservoir	TX	1,100	0
42	Chickasaw Creek	AL	1,002	0
43	Unknown - POTW release in Oakmont, PA	PA	999	100
44	Unknown - POTW release in Lynchburg, VA	VA	951	100
45	Unknown - POTW release in St. Paul, MN	MN	865	100
46	Naugatuck River	CT	849	100
47	Lake Michigan	IL, IN, MI, WI	829	100
48	Watauga River	TN	750	0
49	Unknown - POTW release in Jefferson, LA	LA	748	100
50	Walnut River	KS	740	0

Source: U.S. PIRG, compiled from EPA's Toxics Release Inventory. Figures include estimated discharges through POTWs.

Table 12

Facilities Releasing the Largest Amounts of Reproductive Toxins

Rank	Facility Name	City	State	Water Body	Total releases (lbs) 1997
1	Du Pont Chambers Works	Deepwater	NJ	Delaware River	82,802
2	Wyeth Ayerst Pharmaceuticals	Pearl River	NY	Hudson River	40,903
3	Uniroyal Chemical Co. Inc.	Painesville	OH	Unknown - POTW release in Mentor, OH	29,757
4	Cardolite Corp.	Newark	NJ	New York Harbor	26,988
5	PPG Ind. Inc.	Lake Charles	LA	Calcasieu River	23,000
6	Viskase Corp.	Bedford Park	IL	Illinois River	17,834
7	Du Pont La Porte Plant	La Porte	TX	San Jacinto Bay	10,318
8	Occidental Chemicals Plant	Pasadena	TX	Houston Ship Channel	9,630
9	Ciba Specialty Chemicals Corp.	Mc Intosh	AL	Tombigbee River	8,698
10	OSI Specialties Inc.	Friendly	WV	Ohio River	7,235
11	Sun Refining & Marketing Co.	Marcus Hook	PA	Delaware River	6,996
12	Hercules Inc.	Hattiesburg	MS	Bouie River	6,905
13	Cuplex Inc.	Garland	TX	Trinity River	6,760
14	Fluid Sys. Corp.	San Diego	CA	Unknown - POTW release in San Diego, CA	6,386
15	Viskase Corp.	Loudon	TN	Unknown - POTW release in Loudon, TN	6,158
16	Eastman Chemical Co. Carolina	Eastman Columbia	SC	Congaree River	5,800
17	B.I. Chemicals Inc.	Petersburg	VA	Appomattox River	5,544
18	BP Oil Co. Toledo Refy.	Oregon	OH	Maumee Bay	4,709
19	Devro-Teepak Inc.	Danville	IL	Vermillion River	4,591
20	Tech-Etch Inc.	Plymouth	MA	Unknown - POTW release in Plymouth, MA	4,494
21	Union Carbide Corp. Taft/Star	Taft	LA	Mississippi River	4,132
22	Lyondell-Citgo Refining Co.	Houston	TX	Houston Ship Channel	4,129
23	Harcros Chemicals Inc.	Kansas City	KS	Unknown - POTW release in Kansas City, KS	3,666
24	3M Tonawanda	Tonawanda	NY	Unknown - POTW release in Tonawanda, NY	3,336
25	Noramco Of Delaware Inc.	Wilmington	DE	Delaware River	2,520
26	Olin Chemicals & Chlor Alkali	Brandenburg	KY	Ohio River	2,408
27	Tennessee Eastman Div.	Kingsport	TN	Holston River	2,333
28	Courtaulds Fibers Inc.	Axis	AL	Mobile River	2,300
29	Mobil Oil Torrance Refinery	Torrance	CA	Pacific Ocean	2,230
30	Amp Circuits	Greenville	SC	Unknown - POTW release in Greenville, SC	2,175
31	Hadco Corp.	Derry	NH	Merrimack River	2,064
32	Phillips 66 Co. A Div.Of	Borger	TX	Dixon Creek	2,040
33	Mapco Petroleum Inc.	Memphis	TN	Mississippi River	1,952
34	Rhone-Poulenc Institute Plant	Institute	WV	Kanawha River	1,899
35	U.S. Steel USS Gary Works	Gary	IN	Grand Calumet River	1,800
36	Crown Central Petroleum Corp.	Pasadena	TX	Houston Ship Channel	1,736
37	Akzo Nobel Chemicals Inc.	Mc Cook	IL	Illinois River	1,638
38	BF Goodrich Co.	Henry	IL	Illinois River	1,562
39	Fairmount Chemical Co. Inc.	Newark	NJ	New York Harbor	1,480
40	Garlock Bearings Inc.	Thorofare	NJ	Unknown - POTW release in West Deptford, NJ	1,469
41	Phillips Chemical Co. Philtex	Borger	TX	Dixon Creek	1,415
42	Tosco Refining Co. Los	Carson	CA	Pacific Ocean	1,364
43	Allied-Signal Inc. Hopewell	Hopewell	VA	Gravelly Run	1,358
44	Malllinckrodt Inc.	Saint Louis	MO	Mississippi River	1,332
45	Alliance Chemical Inc.	Newark	NJ	New York Harbor	1,306
46	Merck Sharp & Dohme Quimica	Barceloneta	PR	Atlantic Ocean	1,201
47	Baker Petrolite Corp.	Sand Springs	OK	Arkansas River	1,187
48	Techmetals Inc.	Dayton	OH	Great Miami River	1,170
49	Hoechst-Celanese Chemical	Pasadena	TX	Houston Ship Channel	1,102
50	Du Pont Old Hickory Plant	Old Hickory	TN	Cumberland River	1,100

Source: U.S. PIRG, compiled from EPA's Toxics Release Inventory. Figures include estimated discharges through POTWs.

Table 13

States With the Largest Releases of Reproductive Toxins in 1997

Rank	State	Total releases 1997 (lbs)	Percent of lbs from POTWs 1997
1	New Jersey	116,018	28.6
2	New York	44,858	98.7
3	Texas	42,760	58.1
4	Ohio	37,077	86.3
5	Louisiana	29,318	2.6
6	Illinois	28,076	92.4
7	Alabama	15,048	2.1
8	Tennessee	13,242	66.6
9	California	12,510	97.8
10	Pennsylvania	10,794	75.3
11	West Virginia	10,297	0.5
12	South Carolina	9,403	31.8
13	Virginia	8,420	79.8
14	Mississippi	6,970	0.2
15	Massachusetts	6,184	100
16	Kansas	4,420	82.9
17	Kentucky	3,777	13.5
18	Puerto Rico	3,771	99.5
19	Delaware	2,704	94.2
20	Indiana	2,698	8.6
21	Michigan	2,186	63.4
22	New Hampshire	2,122	100
23	Missouri	1,972	97.6
24	Utah	1,847	94.8
25	Oklahoma	1,325	2.7
26	Connecticut	1,307	99.6
27	Minnesota	1,182	89.7
28	Wisconsin	1,026	100
29	Georgia	918	22.4
30	North Carolina	744	95.3
31	Washington	661	0
32	Florida	640	83.6
33	Wyoming	520	0
34	Arkansas	377	0
35	Arizona	222	100
36	Oregon	81	100
37	Iowa	66	0
38	Virgin Islands	65	0
39	Montana	27	0
40	Nebraska	25	60
41	Vermont	13	100
42	Maryland	6	33.3
43	Rhode Island	1	0
44	Nevada	1	100
45	Colorado	0	0

Source: U.S. PIRG, compiled from EPA's Toxics Release Inventory. Figures include estimated discharges through POTWs.

Table 14

Water Bodies Receiving the Largest Amounts of Carcinogens

Rank	Water Body	States	Total releases (lbs) 1997	Percent of lbs from POTWs 1997
1	Delaware River	DE, NJ, PA	172,150	88
2	Unknown - POTW release in San Diego, CA	CA	137,716	100
3	Mississippi River	AR, IA, IL, KY, LA, MN, MO, MS, TN, WI	127,749	17.4
4	Houston Ship Channel	TX	124,200	97.5
5	Atlantic Ocean	ME, PR, RI	102,740	99.9
6	Ohio River	IL, IN, KY, OH, PA, WV	69,595	31.9
7	Unknown - POTW release in St. Paul, MN	MN	66,098	100
8	Tennessee River	AL, KY, TN	62,526	0
9	Genesee River	NY	56,499	0
10	Columbia River	OR, WA	55,128	3.3
11	Unknown - POTW release in South Charleston, WV	WV	54,049	100
12	Kalamazoo River	MI	49,123	99.9
13	Unknown - POTW release in Huntington, WV	WV	48,830	100
14	Connecticut River	CT, MA, NH, VT	47,195	99.2
15	Holston River	TN	46,295	0
16	Unknown - POTW release in Oceanside, CA	CA	45,605	100
17	Pacific Ocean	CA, HI, OR	43,023	44.8
18	Brazos River	TX	39,353	0
19	Wabash River	IL, IN, OH	34,770	3.5
20	New York Harbor	NJ	32,826	100
21	Black Creek, SC	SC	29,405	0
22	Bellingham Bay	WA	28,926	0
23	Mobile River	AL	28,890	0
24	Minnesota River	MN	28,589	100
25	Cooper River	SC	27,072	0
26	Arthur Kill	NJ	27,041	95.2
27	Ward Cove	AK	26,000	0
28	Tombigbee River	AL	25,433	0
29	Great Pee Dee River	SC	24,809	0
30	Unknown - POTW release in Rahway, NJ	NJ	22,402	100
31	Neuse River	NC	21,384	0
32	Unknown - POTW release in Tyndall Air Force Base,	FL	21,116	100
33	Grand River, MI	MI	20,902	99.8
34	Niagara River	NY	19,841	99.2
35	Puget Sound	WA	17,593	0.4
36	Catawba River	NC, SC	15,836	0.1
37	Neches River	TX	14,711	0
38	Lake Erie	NY, OH, PA	13,939	97.9
39	Sacramento River	CA	13,579	100
40	Flint River, GA	GA	13,248	0
41	Everett Harbor	WA	12,400	0
42	Kanawha River	WV	11,589	0
43	Cuyahoga River	OH	11,297	99.9
44	Leaf River	MS	11,220	0
45	Cape Fear River	NC	11,066	0
46	Wisconsin River	WI	11,031	0
47	Naugatuck River	CT	9,807	91.5
48	Jackson River	VA	9,800	0
49	Unknown - POTW release in Greenville, SC	SC	9,787	100
50	Illinois River	IL	9,642	58.9

Source: U.S. PIRG, compiled from EPA's 1997 Toxics Release Inventory. Figures include estimated discharges through POTWs.

Table 15

Facilities Discharging the Largest Amounts of Carcinogens

Rank	Facility Name	City	State	Water Body	Total releases (lbs) 1997
1	Rodel Inc.	Newark	DE	Delaware River	104,550
2	Fluid Sys. Corp.	San Diego	CA	Unknown - POTW release in San Diego, CA	101,543
3	Schering-Plough Prods. Inc.	Manati	PR	Atlantic Ocean	65,088
4	Filmtec Corp.	Edina	MN	Unknown - POTW release in St. Paul, MN	63,210
5	Eastman Kodak Co. Kodak Park	Rochester	NY	Genesee River	56,499
6	BASF Corp.	Huntington	WV	Unknown - POTW release in Huntington, WV	47,650
7	Arco Chemical Co. Bayport Div.	Pasadena	TX	Houston Ship Channel	47,044
8	Solutia Inc.	Springfield	MA	Connecticut River	46,254
9	Hydranautics	Oceanside	CA	Unknown - POTW release in Oceanside, CA	45,550
10	Pharmacia & Upjohn Co. Prod.	Portage	MI	Kalamazoo River	44,873
11	Tennessee Eastman Div.	Kingsport	TN	Holston River	44,105
12	Union Carbide Corp.	South Charleston	WV	Unknown - POTW release in South Charleston, WV	42,327
13	Weyerhaeuser Co.	Longview	WA	Columbia River	42,080
14	Dow Chemical Co.	Freeport	TX	Brazos River	38,811
15	ISP Chemicals Inc.	Calvert City	KY	Tennessee River	33,399
16	Clinton Labs.	Clinton	IN	Wabash River	33,250
17	Pharmacia & Upjohn Caribe Inc.	Arecibo	PR	Atlantic Ocean	30,287
18	Hoechst-Celanese Chemical	Pasadena	TX	Houston Ship Channel	30,098
19	Wellman Inc. Palmetto Plant	Darlington	SC	Black Creek, SC	29,400
20	Georgia-Pacific West Inc.	Bellingham	WA	Bellingham Bay	28,926
21	Osmonics Inc.	Minnetonka	MN	Minnesota River	28,583
22	Cardolite Corp.	Newark	NJ	New York Harbor	26,975
23	Union Carbide Corp. Taft/Star	Taft	LA	Mississippi River	26,757
24	Kimberly-Clark Corp.	Mobile	AL	Mobile River	26,000
25	Ketchikan Pulp Co.	Ketchikan	AK	Ward Cove	26,000
26	Usf Filtration & Separations	San Diego	CA	Unknown - POTW release in San Diego, CA	22,470
27	Merck & Co. Inc.	Rahway	NJ	Unknown - POTW release in Rahway, NJ	22,400
28	Louisiana-Pacific Corp. Samoa	Samoa	CA	Pacific Ocean	22,000
29	Merck & Co. Inc.	Rahway	NJ	Arthur Kill	21,606
30	Noramco Of Delaware Inc.	Wilmington	DE	Delaware River	21,360
31	Stone Container Corp.	Panama City	FL	Unknown - POTW release in Tyndall Air Force Base,	21,116
32	Du Pont Kinston Plant	Kinston	NC	Neuse River	20,634
33	Simpson Pasadena Paper Co.	Pasadena	TX	Houston Ship Channel	18,622
34	Olin Chemicals & Chlor Alkali	Brandenburg	KY	Ohio River	18,407
35	Du Pont Florence Site	Florence	SC	Great Pee Dee River	18,300
36	Buffalo Color Corp.	Buffalo	NY	Niagara River	17,360
37	Simpson Tacoma Kraft Co.	Tacoma	WA	Puget Sound	17,240
38	Ciba Specialty Chemicals Corp.	Mc Intosh	AL	Tombigbee River	16,426
39	Cincinnati Specialties Inc.	Cincinnati	OH	Ohio River	15,261
40	Amoco Chemical Co.	Decatur	AL	Tennessee River	15,000
41	PCS Nitrogen Fertilizer L.P.	Geismar	LA	Mississippi River	14,000
42	Georgia-Pacific Resins Inc.	Elk Grove	CA	Sacramento River	13,489
43	Du Pont Cooper River Plant	Charleston	SC	Cooper River	13,090
44	Merck & Co. Inc. Flint River	Albany	GA	Flint River, GA	12,940
45	Kimberly-Clark Tissue Co.	Everett	WA	Everett Harbor	12,400
46	Ferro Corp. Grant Chemical	Zachary	LA	Mississippi River	12,340
47	Solutia Port Plastics	Addyston	OH	Ohio River	12,000
48	Westvaco Corp.	Wickliffe	KY	Mississippi River	11,750
49	Arco Chemical Co.	South Charleston	WV	Unknown - POTW release in South Charleston, WV	11,718
50	UOP Separex Membrane Systems	Anaheim	CA	Pacific Ocean	11,295

Source: U.S. PIRG, compiled from EPA's 1997 Toxics Release Inventory. Figures include estimated discharges through POTWs.

Table 16

States With the Largest Releases of Carcinogens in 1997

Rank	State	Total releases 1997 (lbs)	Percent of lbs from POTWs 1997
1	California	258,149	88
2	Texas	210,663	59.5
3	Delaware	142,611	95.1
4	South Carolina	129,599	15.4
5	West Virginia	124,221	82.8
6	Washington	118,816	0.8
7	New Jersey	113,868	81.9
8	Louisiana	113,390	2.5
9	Minnesota	107,194	89.6
10	Alabama	104,288	1.4
11	Puerto Rico	103,225	99.8
12	New York	97,913	31.6
13	Michigan	95,617	87.5
14	Tennessee	89,584	35.5
15	Ohio	85,523	67.3
16	Kentucky	77,852	8.5
17	North Carolina	62,084	9.4
18	Indiana	53,392	22.3
19	Massachusetts	50,834	99.4
20	Pennsylvania	46,004	55.1
21	Georgia	45,158	9
22	Illinois	39,093	70.5
23	Florida	37,315	66.8
24	Mississippi	35,221	21.3
25	Wisconsin	26,408	28.6
26	Alaska	26,000	0
27	Virginia	24,994	27.6
28	Connecticut	22,710	48.1
29	Maine	17,465	6
30	Maryland	14,955	53.1
31	Oregon	14,675	22
32	Missouri	13,583	77
33	New Hampshire	13,115	6.6
34	Arkansas	10,330	16.4
35	Idaho	7,812	0.6
36	Kansas	6,726	77.1
37	Iowa	6,093	16.2
38	Oklahoma	5,781	34
39	Utah	3,415	85.4
40	Montana	3,354	0.1
41	Nebraska	2,689	59.4
42	Arizona	1,048	99.4
43	Rhode Island	793	93.4
44	Colorado	605	88.3
45	Wyoming	263	1.1
46	New Mexico	256	31.3
47	District Of Columbia	154	100
48	North Dakota	45	86.7
49	Vermont	26	23.1
50	Hawaii	25	0
51	Virgin Islands	17	0
52	South Dakota	5	100
53	Nevada	0	0

Source: U.S. PIRG, compiled from EPA's 1997 Toxics Release Inventory. Figures include estimated discharges through POTWs.

Table 17

Properties and POTW Pass-through Percentages of TRI Chemicals Used in this Report

Chemical Name	CAS #	Change?	Carc.	Repro. Tox.	PBT	POTW pass-through %
Abamectin	71751412	Added in 1995				1.8
Acephate	30560191	Added in 1995				54.6
Acetaldehyde	75070		X			7.9
Acetamide	60355		X			7.9
Acetonitrile	75058					24.7
Acetophenone	98862	Added in 1994				7.8
Acifluorfen, sodium salt	62476599	Added in 1995	X			25
Acrolein	107028					7.8
Acrylamide	79061		X			7.9
Acrylic acid	79107					7.9
Acrylonitrile	107131		X			7.8
Alachlor	15972608	Added in 1995	X			11.2
Allyl alcohol	107186	Added in 1990				7.9
Allyl chloride	107051		X			15.6
Aluminum (fume or dust)	7429905					33.6
Aluminum oxide (fibrous forms)	1344281	Guidance changed i				100
Ametryn	834128	Added in 1995				45.3
Ammonia	7664417	Guidance changed i				40.1
Aniline	62533		X			7.9
o-Anisidine	90040		X			24.8
p-Anisidine	104949					7.9
Anthracene	120127					5.8
Antimony	7440360				X	68.5
Antimony compounds	N010				X	68.5
Arsenic	7440382		X		X	51.4
Arsenic compounds	N020				X	51.4
Asbestos (friable)	1332214		X			100
Atrazine	1912249	Added in 1995	X			74.3
Barium	7440393				X	31
Barium compounds	N040				X	31
Benzal chloride	98873					0
Benzene	71432		X	X		5.9
Benzoic trichloride	98077		X			0

Source: U.S. PIRG; chemical properties from U.S. EPA and State of California; pass-through percentages from EPA's OPPT Risk Screening Environmental Indicators program.

Chemical Name	CAS #	Change?	Carc.	Repro. Tox.	PBT	POTW pass-through %
Benzoyl chloride	98884					0
Benzoyl peroxide	94360					3.3
Benzyl chloride	100447		X			22
Beryllium	7440417		X		X	62.6
Beryllium compounds	N050		X		X	62.6
Biphenyl	92524					1.1
Bis(2-chloroethyl) ether	111444		X			77.2
Bis(2-chloro-1-methylethyl) ether	108601					49.5
Bis(tributyltin) oxide	56359	Added in 1995				25
Boron trifluoride	7637072	Added in 1995				25
Bromacil	314409	Added in 1995				53.1
Bromine	7726956	Added in 1995				25
Bromomethane	74839			X		22.5
1,3-Butadiene	106990		X			2.7
Butyl acrylate	141322					7
n-Butyl alcohol	71363					7.9
sec-Butyl alcohol	78922					7.9
tert-Butyl alcohol	75650					54.3
1,2-Butylene oxide	106887					24
Butyraldehyde	123728					7.8
Cadmium	7440439		X		X	31.8
Cadmium compounds	N078		X		X	31.8
Captan	133062		X			23.2
Carbaryl	63252					6.7
Carbofuran	1563662	Added in 1995				7.3
Carbon disulfide	75150			X		12.8
Carbon tetrachloride	56235		X			7.4
Carboxin	5234684	Added in 1995				23.8
Catechol	120809					7.9
Chlordane	57749		X			1.3
Chlorine	7782505					100
Chlorine dioxide	10049044					100
Chloroacetic acid	79118					7.9
1-(3-Chloroallyl)-3,5,7-triaza-1-azoniaadamantane chloride	4080313	Added in 1995				54.6
p-Chloroaniline	106478	Added in 1995	X			53.8

Source: U.S. PIRG; chemical properties from U.S. EPA and State of California; pass-through percentages from EPA's OPPT Risk Screening Environmental Indicators program.

Appendix A, Table 17

Chemical Name	CAS #	Change?	Carc.	Repro. Tox.	PBT	POTW pass-through %
Chlorobenzene	108907					14.7
1-Chloro-1,1-difluoroethane (HCFC-142b)	75683	Added in 1994				3.4
Chlorodifluoromethane (HCFC-22)	75456	Added in 1994				100
Chloroethane	75003		X			15.6
Chloroform	67663		X			29.2
Chloromethane	74873					12.3
Chloromethyl methyl ether	107302		X			0
3-Chloro-2-methyl-1-propene	563473	Added in 1995	X			4.2
Chlorophenols	N084		X			27.1
Chloroprene	126998					4.3
1-Chloro-1,1,2,2-tetrafluoroethane (HCFC-124a)	354256	Added in 1994				0.5
2-Chloro-1,1,1,2-tetrafluoroethane (HCFC-124)	2837890	Added in 1994				0.5
Chlorothalonil	1897456		X			17.2
2-Chloro-1,1,1-trifluoroethane (HCFC-133a)	75887	Added in 1995				0.9
Chlorotrifluoromethane (CFC-13)	75729	Added in 1995				0.2
Chromium	7440473				X	23.6
Chromium compounds	N090				X	23.6
C.I. Acid Red 114	6459945	Added in 1995	X			0.1
C.I. Basic Red 1	989388					0.5
C.I. Direct Blue 218	28407376	Added in 1995	X			25
C.I. Direct Brown 95	16071866		X			0.3
C.I. Disperse Yellow 3	2832408					16.3
C.I. Food Red 15	81889		X			53.6
Cobalt	7440484		X		X	67.9
Cobalt compounds	N096		X		X	67.9
Copper	7440508				X	27.5
Copper compounds	N100				X	27.5
Creosote	8001589	Added in 1990	X			100
p-Cresidine	120718		X			53.9
m-Cresol	108394					7.6
o-Cresol	95487					7.6
p-Cresol	106445					7.7
Cresol (mixed isomers)	1319773					7.6
Crotonaldehyde	4170303	Added in 1995				7.7
Cumene	98828					1.9

Source: U.S. PIRG; chemical properties from U.S. EPA and State of California; pass-through percentages from EPA's OPPT Risk Screening Environmental Indicators program.

Chemical Name	CAS #	Change?	Carc.	Repro. Tox.	PBT	POTW pass-through %
Cumene hydroperoxide	80159					23.8
Cyanazine	21725462	Added in 1995		X		76.5
Cyanide compounds	N106					100
Cycloate	1134232	Added in 1995		X		6.1
Cyclohexane	110827					11.3
Cyclohexanol	108930	Added in 1995		X		7.8
Cyfluthrin	68359375	Added in 1995				0.1
2,4-D (acetic acid)	94757		X			6.2
Dazomet	533744	Added in 1995				3.3
Dazomet, sodium salt	53404607	Added in 1995				54.3
Decabromodiphenyl oxide	1163195					0.9
2,4-D 2-Ethylhexyl ester	1928434	Added in 1995	X			0
4,4'-Diaminodiphenyl ether	101804		X			23.6
Diaminotoluene (mixed isomers)	25376458		X			15.4
Diazinon	333415	Added in 1995				7
Dibenzofuran	132649					3.6
1,2-Dibromoethane	106934		X	X		45.6
Dibutyl phthalate	84742					0.8
Dicamba	1918009	Added in 1995				52.8
Dichloran	99309	Added in 1995				48.6
1,2-Dichlorobenzene	95501					26.2
1,3-Dichlorobenzene	541731					22.5
1,4-Dichlorobenzene	106467		X			24.7
3,3'-Dichlorobenzidine	91941		X			31.6
3,3'-Dichlorobenzidine dihydrochloride	612839	Added in 1995	X			31.6
1,2-Dichloro-1,1-difluoroethane (HCFC-132b)	1649087	Added in 1995				4.9
Dichlorodifluoromethane (CFC-12)	75718	Added in 1991				0.7
1,2-Dichloroethane	107062		X			42
1,2-Dichloroethylene	540590					27.7
1,1-Dichloro-1-fluoroethane (HCFC-141b)	1717006	Added in 1994				9.2
Dichlorofluoromethane (HCFC-21)	75434	Added in 1995				28.6
Dichloromethane	75092		X			17.8
2,4-Dichlorophenol	120832					5.2
1,2-Dichloropropane	78875		X			32.1
2,3-Dichloropropene	78886	Added in 1990				34.1

Source: U.S. PIRG; chemical properties from U.S. EPA and State of California; pass-through percentages from EPA's OPPT Risk Screening Environmental Indicators program.

Appendix A, Table 17

Chemical Name	CAS #	Change?	Carc.	Repro. Tox.	PBT	POTW pass-through %
1,3-Dichloropropylene	542756		X			17
Dichlorotetrafluoroethane (CFC-114)	76142	Added in 1991				0.1
1,2-Dichloro-1,1,2-trifluoroethane (HCFC-123a)	354234	Added in 1994				2.6
2,2-Dichloro-1,1,1-trifluoroethane (HCFC-123)	306832	Added in 1994				2.6
Dichlorvos	62737		X			24.7
Dicyclopentadiene	77736	Added in 1995				3.3
Diethanolamine	111422					7.9
Di-(2-ethylhexyl) phthalate	117817		X			0.1
Diethyl sulfate	64675		X			4.9
Dihydrosafrole	94586	Added in 1994	X			29.2
Diisocyanates	N120	Added in 1995				25
Dimethoate	60515	Added in 1995				54.5
3,3'-Dimethoxybenzidine dihydrochloride	20325400	Added in 1995	X			54.4
Dimethylamine	124403	Added in 1995				7.9
N,N-Dimethylaniline	121697					51.3
3,3'-Dimethylbenzidine	119937		X			23.2
N,N-Dimethylformamide	68122	Added in 1995	X			7.9
2,4-Dimethylphenol	105679					23.4
2,6-Dimethylphenol	576261	Deleted in 1997				25
Dimethyl phthalate	131113					7.8
Dimethyl sulfate	77781		X			3
m-Dinitrobenzene	99650	Added in 1990		X		54.2
o-Dinitrobenzene	528290	Added in 1990		X		54
p-Dinitrobenzene	100254	Added in 1990		X		54.2
Dinitrobutyl phenol	88857	Added in 1995		X		53.6
4,6-Dinitro-o-cresol	534521					53.1
2,4-Dinitrophenol	51285					24.5
2,4-Dinitrotoluene	121142		X	X		53.5
2,6-Dinitrotoluene	606202		X	X		53.1
Dinitrotoluene (mixed isomers)	25321146	Added in 1990				52.9
1,4-Dioxane	123911		X			54.5
Diphenylamine	122394	Added in 1995				11.6
Diuron	330541	Added in 1995				49.5
Epichlorohydrin	106898		X	X		53.9
2-Ethoxyethanol	110805			X		7.9

Source: U.S. PIRG; chemical properties from U.S. EPA and State of California; pass-through percentages from EPA's OPPT Risk Screening Environmental Indicators program.

Appendix A, Table 17

Chemical Name	CAS #	Change?	Carc.	Repro. Tox.	PBT	POTW pass-through %
Ethyl acrylate	140885		X			7.6
Ethylbenzene	100414					10.2
Ethyl chloroformate	541413					18
Ethyl dipropylthiocarbamate	759944	Added in 1995		X		40.1
Ethylene	74851					0.9
Ethylenebisdithiocarbamic acid, salts and esters	N171	Added in 1994				25
Ethylene glycol	107211					7.9
Ethylene oxide	75218		X	X		7.8
Ethylene thiourea	96457		X	X		54.6
Ethylidene dichloride	75343	Added in 1994	X			23.8
Famphur	52857	Added in 1995				23.6
Fluometuron	2164172					51.7
Fluorine	7782414	Added in 1995				25
Folpet	133073	Added in 1995	X			20.1
Fomesafen	72178020	Added in 1995				46.6
Formaldehyde	50000		X			7.9
Formic acid	64186	Added in 1994				7.9
Freon 113	76131					0.5
Glycol ethers	N230					100
Heptachlor	76448		X	X		0.7
Hexachlorobenzene	118741		X	X		1.6
Hexachloro-1,3-butadiene	87683					5.2
Hexachlorocyclopentadiene	77474					1.2
Hexachloroethane	67721		X			22.5
n-Hexane	110543	Added in 1995				0.1
Hexazinone	51235042	Added in 1995				15.4
Hydramethylnon	67485294	Added in 1995		X		0.3
Hydrazine	302012		X			100
Hydrazine sulfate	10034932		X			100
Hydrochloric acid	7647010	Guidance changed i				100
Hydrogen cyanide	74908					28
Hydrogen fluoride	7664393					100
Hydroquinone	123319					7.9
3-Iodo-2-propynyl butylcarbamate	55406536	Added in 1995				22.8
Isobutyraldehyde	78842					7.8

Source: U.S. PIRG; chemical properties from U.S. EPA and State of California; pass-through percentages from EPA's OPPT Risk Screening Environmental Indicators program.

Appendix A, Table 17

Chemical Name	CAS #	Change?	Carc.	Repro. Tox.	PBT	POTW pass-through %
Isopropyl alcohol (manufacturing)	67630					7.9
4,4'-Isopropylidenediphenol	80057					14.3
Lead	7439921		X		X	36.5
Lead compounds	N420				X	36.5
Lindane	58899		X			24.6
Linuron	330552	Added in 1995		X		40.6
Lithium carbonate	554132	Added in 1995		X		25
Malathion	121755	Added in 1995				7.2
Maleic anhydride	108316					0
Maneb	12427382		X			28
Manganese	7439965				X	61.1
Manganese compounds	N450				X	61.1
Mecoprop	93652	Added in 1995	X			42.2
2-Mercaptobenzothiazole	149304	Added in 1995				51.7
Mercury	7439976				X	31.4
Mercury compounds	N458				X	31.4
Metham sodium	137428	Added in 1995	X	X		24.1
Methanol	67561					7.9
Methoxone	94746	Added in 1995	X			39.3
2-Methoxyethanol	109864			X		7.9
Methyl acrylate	96333					7.7
Methyl tert-butyl ether	1634044					47.1
Methyl chlorocarbonate	79221	Added in 1994				0.4
4,4'-Methylenebis(2-chloroaniline)	101144		X			18.4
Methylene bromide	74953					44.3
4,4'-Methylenedianiline	101779		X			24.6
Methyl ethyl ketone	78933					7.9
Methyl iodide	74884		X			24.7
Methyl isobutyl ketone	108101					7.7
Methyl methacrylate	80626					7.6
N-Methylolacrylamide	924425	Added in 1995	X			7.9
2-Methylpyridine	109068	Added in 1994				7.9
N-Methyl-2-pyrrolidone	872504	Added in 1995				7.9
Metribuzin	21087649	Added in 1995				54
Molinate	2212671	Added in 1995				40.3

Source: U.S. PIRG; chemical properties from U.S. EPA and State of California; pass-through percentages from EPA's OPPT Risk Screening Environmental Indicators program.

Chemical Name	CAS #	Change?	Carc.	Repro. Tox.	PBT	POTW pass-through %
Molybdenum trioxide	1313275					100
Monochloropentafluoroethane (CFC-115)	76153	Added in 1991				0.1
Nabam	142596	Added in 1995		X		25
Naled	300765	Added in 1995				24.7
Naphthalene	91203					4
Nickel	7440020		X		X	61.7
Nickel compounds	N495		X		X	61.7
Nicotine and salts	N503	Added in 1995				25
Nitrapyrin	1929824	Added in 1995		X		34.2
Nitrate compounds	N511	Added in 1995				10
Nitric acid	7697372					100
Nitrilotriacetic acid	139139		X			7.9
p-Nitroaniline	100016	Added in 1995				54.3
5-Nitro-o-anisidine	99592		X			54.2
Nitrobenzene	98953		X			7.7
Nitroglycerin	55630					24.6
2-Nitrophenol	88755					46.6
4-Nitrophenol	100027					0.5
2-Nitropropane	79469		X			24.3
Oxyfluorfen	42874033	Added in 1995				3.1
Paraquat dichloride	1910425	Added in 1995				54.6
Pebulate	1114712	Added in 1995				1.6
Pendimethalin	40487421	Added in 1995				1.2
Pentachloroethane	76017	Added in 1994				42.1
Pentachlorophenol	87865		X			3.8
Peracetic acid	79210					7.9
Permethrin	52645531	Added in 1995				0.1
Phenanthrene	85018	Added in 1995				5.9
Phenol	108952					7.8
1,2-Phenylenediamine	95545	Added in 1995	X			54.6
1,3-Phenylenediamine	108452	Added in 1995				54.6
p-Phenylenediamine	106503					54.6
2-Phenylphenol	90437					5.1
Phosphoric acid	7664382					100
Phosphorus (yellow or white)	7723140					40.2

Source: U.S. PIRG; chemical properties from U.S. EPA and State of California; pass-through percentages from EPA's OPPT Risk Screening Environmental Indicators program.

Appendix A, Table 17

Chemical Name	CAS #	Change?	Carc.	Repro. Tox.	PBT	POTW pass-through %
Phthalic anhydride	85449					0.7
Picloram	1918021	Added in 1995				90.4
Piperonyl butoxide	51036	Added in 1995				3
Polychlorinated alkanes	N583	Added in 1995				25
Polycyclic aromatic compounds	N590	Added in 1995	X			25
Potassium bromate	7758012	Added in 1995	X			25
Potassium dimethyldithiocarbamate	128030	Added in 1995		X		23.4
Prometryn	7287196	Added in 1995				55.7
Propachlor	1918167	Added in 1995				23.5
Propanil	709988	Added in 1995				43.5
Propargite	2312358	Added in 1995	X	X		0
Propargyl alcohol	107197	Added in 1995				7.9
Propionaldehyde	123386					7.8
Propoxur	114261					7.8
Propylene	115071					1.1
Propylene oxide	75569		X			7.8
Pyridine	110861					7.9
Quinoline	91225					24.1
Quinone	106514					48.2
Quintozene	82688					10.1
Saccharin (manufacturing)	81072		X			24.9
Safrole	94597		X			33.5
Selenium	7782492				X	56.3
Selenium compounds	N725				X	56.3
Silver	7440224				X	33.5
Silver compounds	N740				X	33.5
Simazine	122349	Added in 1995				76.6
Sodium azide	26628228	Added in 1995				25
Sodium dicamba	1982690	Added in 1995				52.8
Sodium dimethyldithiocarbamate	128041	Added in 1995		X		23.4
Sodium nitrite	7632000	Added in 1995				25
Styrene	100425		X			5.1
Sulfuric acid	7664939	Guidance changed i				100
Terbacil	5902512	Added in 1995		X		53.7
1,1,1,2-Tetrachloroethane	630206	Added in 1994				41.2

Source: U.S. PIRG; chemical properties from U.S. EPA and State of California; pass-through percentages from EPA's OPPT Risk Screening Environmental Indicators program.

Appendix A, Table 17

Chemical Name	CAS #	Change?	Carc.	Repro. Tox.	PBT	POTW pass-through %
1,1,2,2-Tetrachloroethane	79345		X			66.8
Tetrachloroethylene	127184		X			11.1
1,1,1,2-Tetrachloro-2-fluoroethane	354110	Added in 1995				38.2
Tetrachlorvinphos	961115					11.1
Tetracycline hydrochloride	64755	Added in 1995		X		54.6
Thallium	7440280				X	46.4
Thiabendazole	148798	Added in 1995				51.4
Thiodicarb	59669260	Added in 1995	X			24.5
Thiophanate-methyl	23564058	Added in 1995		X		24.7
Thiourea	62566		X			24.9
Thiram	137268	Added in 1994				24.5
Thorium dioxide	1314201		X			100
Toluene	108883			X		5
Toluene-2,4-diisocyanate	584849		X			0.5
Toluenediisocyanate (mixed isomers)	26471625	Added in 1990	X			0.5
o-Toluidine	95534		X			0.1
Tributyltin fluoride	1983104	Added in 1995				25
Tributyltin methacrylate	2155706	Added in 1995				25
S,S,S-Tributyltrithiophosphate	78488	Added in 1995				0.1
1,2,4-Trichlorobenzene	120821					13.5
1,1,1-Trichloroethane	71556					12.2
1,1,2-Trichloroethane	79005		X			60.2
Trichloroethylene	79016		X			19
Trichlorofluoromethane (CFC-11)	75694	Added in 1991				2.5
2,4,6-Trichlorophenol	88062		X			8.7
1,2,3-Trichloropropane	96184	Added in 1995	X			47.9
Triethylamine	121448	Added in 1995				51.8
Trifluralin	1582098					2.6
1,2,4-Trimethylbenzene	95636					5.9
Urethane	51796		X	X		54.6
Vanadium (fume or dust)	7440622					68.2
Vinyl acetate	108054		X			7.6
Vinyl chloride	75014		X			7.6
Vinylidene chloride	75354					8
m-Xylene	108383					3.7

Source: U.S. PIRG; chemical properties from U.S. EPA and State of California; pass-through percentages from EPA's OPPT Risk Screening Environmental Indicators program.

Appendix A, Table 17

Chemical Name	CAS #	Change?	Carc.	Repro. Tox.	PBT	POTW pass-through %
o-Xylene	95476					4.2
p-Xylene	106423					3.9
Xylene (mixed isomers)	1330207					3.9
2,6-Xylidine	87627		X			52.9
Zinc (fume or dust)	7440666				X	33.8
Zinc compounds	N982				X	33.8
	NA					25
Trade secrets	999999999					25

Source: U.S. PIRG; chemical properties from U.S. EPA and State of California; pass-through percentages from EPA's OPPT Risk Screening Environmental Indicators program.

Appendix A, Table 17

Appendix B:

Permit Compliance Data Tables

Table 1

States and Territories Ranked by Number of Major Facilities in SNC

OCTOBER 1997 - DECEMBER 1998

RANK	STATE	TOTAL # OF FACILITIES	% IN SNC	# IN SNC
1	TX	570	31.23%	178
2	FL	238	59.24%	141
3	OH	279	45.16%	126
4	NY	362	33.70%	122
5	AL	210	44.76%	94
6	PR	98	83.67%	82
7	LA	243	32.92%	80
8	PA	389	18.25%	71
9	IN	177	39.55%	70
10	TN	150	42.00%	63
11	NC	218	23.85%	52
12	MI	183	27.87%	51
13	GA	175	26.86%	47
14	MA	149	31.54%	47
15	CT	108	41.67%	45
16	MO	147	30.61%	45
17	SC	190	19.47%	37
18	ME	94	36.17%	34
19	WI	132	25.76%	34
20	IA	123	26.83%	33
21	IL	269	12.27%	33
22	KY	127	25.98%	33
23	OK	91	36.26%	33
24	VA	146	22.60%	33
25	NJ	170	15.88%	27
26	MN	80	32.50%	26
27	AR	109	22.02%	24
28	NE	60	40.00%	24
29	UT	35	68.57%	24
30	WA	90	26.67%	24
31	WV	95	25.26%	24
32	KS	57	38.60%	22
33	MS	86	25.58%	22
34	CA	239	6.69%	16
35	NH	69	23.19%	16
36	MD	89	16.85%	15
37	RI	27	55.56%	15
38	CO	105	11.43%	12
39	OR	71	15.49%	11
40	VT	34	32.35%	11
41	WY	27	40.74%	11
42	AZ	39	23.08%	9
43	AK	47	17.02%	8
44	MT	44	18.18%	8
45	ID	67	10.45%	7
46	NM	34	20.59%	7
47	SD	31	12.90%	4
48	VI	6	66.67%	4
49	DC	4	25.00%	1
50	HI	27	3.70%	1
51	NV	10	10.00%	1
52	DE	24	0.00%	0
53	ND	26	0.00%	0

Source: U.S. PIRG, 2000. Compiled from the U.S. Environmental Protection Agency Permit Compliance System data, October 1997 - December 1998

Table 2

States and Territories Ranked by Percentage of Major Facilities in SNC

OCTOBER 1997 - DECEMBER 1998

RANK	STATE	TOTAL # OF FACILITIES	% IN SNC	# IN SNC
1	PR	98	83.67%	82
2	UT	35	68.57%	24
3	VI	6	66.67%	4
4	FL	238	59.24%	141
5	RI	27	55.56%	15
6	OH	279	45.16%	126
7	AL	210	44.76%	94
8	TN	150	42.00%	63
9	CT	108	41.67%	45
10	WY	27	40.74%	11
11	NE	60	40.00%	24
12	IN	177	39.55%	70
13	KS	57	38.60%	22
14	OK	91	36.26%	33
15	ME	94	36.17%	34
16	NY	362	33.70%	122
17	LA	243	32.92%	80
18	MN	80	32.50%	26
19	VT	34	32.35%	11
20	MA	149	31.54%	47
21	TX	570	31.23%	178
22	MO	147	30.61%	45
23	MI	183	27.87%	51
24	GA	175	26.86%	47
25	IA	123	26.83%	33
26	WA	90	26.67%	24
27	KY	127	25.98%	33
28	WI	132	25.76%	34
29	MS	86	25.58%	22
30	WV	95	25.26%	24
31	DC	4	25.00%	1
32	NC	218	23.85%	52
33	NH	69	23.19%	16
34	AZ	39	23.08%	9
35	VA	146	22.60%	33
36	AR	109	22.02%	24
37	NM	34	20.59%	7
38	SC	190	19.47%	37
39	PA	389	18.25%	71
40	MT	44	18.18%	8
41	AK	47	17.02%	8
42	MD	89	16.85%	15
43	NJ	170	15.88%	27
44	OR	71	15.49%	11
45	SD	31	12.90%	4
46	IL	269	12.27%	33
47	CO	105	11.43%	12
48	ID	67	10.45%	7
49	NV	10	10.00%	1
50	CA	239	6.69%	16
51	HI	27	3.70%	1
52	DE	24	0.00%	0
53	ND	26	0.00%	0

Source: U.S. PIRG, 2000. Compiled from the U.S. Environmental Protection Agency Permit Compliance System data, October 1997 - December 1998

Table 3

States and Territories Ranked by Percentage of Major Municipal Facilities in SNC

OCTOBER 1997 - DECEMBER 1998

RANK	STATE	# MUNICIPAL	# MUNICIPAL IN SNC	MUNICIPAL % SNC
1	PR	37	36	97.30%
2	RI	19	13	68.42%
3	UT	26	17	65.38%
4	FL	112	64	57.14%
5	LA	96	52	54.17%
6	TN	96	50	52.08%
7	VI	2	1	50.00%
8	WY	12	6	50.00%
9	OH	166	80	48.19%
10	OK	60	28	46.67%
11	ME	63	27	42.86%
12	MN	53	22	41.51%
13	CT	63	26	41.27%
14	IN	106	40	37.74%
15	NY	230	86	37.39%
16	NE	35	13	37.14%
17	MA	95	34	35.79%
18	GA	125	44	35.20%
19	MI	97	34	35.05%
20	AZ	20	7	35.00%
21	AL	113	39	34.51%
22	TX	363	123	33.88%
23	VT	27	9	33.33%
24	WV	39	13	33.33%
25	NC	129	43	33.33%
26	MO	99	33	33.33%
27	NH	43	13	30.23%
28	IA	91	27	29.67%
29	MS	53	15	28.30%
30	AR	66	18	27.27%
31	VA	86	23	26.74%
32	WI	84	22	26.19%
33	KS	42	11	26.19%
34	KY	69	18	26.09%
35	SC	105	26	24.76%
36	MD	44	10	22.73%
37	NM	24	5	20.83%
38	AK	21	4	19.05%
39	OR	48	9	18.75%
40	PA	263	43	16.35%
41	NJ	99	16	16.16%
42	WA	46	7	15.22%
43	NV	7	1	14.29%
44	IL	184	24	13.04%
45	MT	26	3	11.54%
46	ID	28	3	10.71%
47	CO	69	6	8.70%
48	CA	165	13	7.88%
49	SD	21	1	4.76%
50	DC	1	0	0.00%
51	DE	8	0	0.00%
52	ND	16	0	0.00%
53	HI	7	0	0.00%

Source: U.S. PIRG, 2000. Compiled from the U.S. Environmental Protection Agency Permit Compliance System data, October 1997 - December 1998

Table 4

States and Territories Ranked by Number of Major Municipal Facilities in SNC

OCTOBER 1997 - DECEMBER 1998

RANK	STATE	# MUNICIPAL	# MUNICIPAL IN SNC	MUNICIPAL % SNC
1	TX	363	123	33.88%
2	NY	230	86	37.39%
3	OH	166	80	48.19%
4	FL	112	64	57.14%
5	LA	96	52	54.17%
6	TN	96	50	52.08%
7	GA	125	44	35.20%
8	PA	263	43	16.35%
9	NC	129	43	33.33%
10	IN	106	40	37.74%
11	AL	113	39	34.51%
12	PR	37	36	97.30%
13	MA	95	34	35.79%
14	MI	97	34	35.05%
15	MO	99	33	33.33%
16	OK	60	28	46.67%
17	ME	63	27	42.86%
18	IA	91	27	29.67%
19	CT	63	26	41.27%
20	SC	105	26	24.76%
21	IL	184	24	13.04%
22	VA	86	23	26.74%
23	MN	53	22	41.51%
24	WI	84	22	26.19%
25	KY	69	18	26.09%
26	AR	66	18	27.27%
27	UT	26	17	65.38%
28	NJ	99	16	16.16%
29	MS	53	15	28.30%
30	NH	43	13	30.23%
31	RI	19	13	68.42%
32	WV	39	13	33.33%
33	NE	35	13	37.14%
34	CA	165	13	7.88%
35	KS	42	11	26.19%
36	MD	44	10	22.73%
37	VT	27	9	33.33%
38	OR	48	9	18.75%
39	AZ	20	7	35.00%
40	WA	46	7	15.22%
41	CO	69	6	8.70%
42	WY	12	6	50.00%
43	NM	24	5	20.83%
44	AK	21	4	19.05%
45	MT	26	3	11.54%
46	ID	28	3	10.71%
47	VI	2	1	50.00%
48	SD	21	1	4.76%
49	NV	7	1	14.29%
50	DC	1	0	0.00%
51	DE	8	0	0.00%
52	ND	16	0	0.00%
53	HI	7	0	0.00%

Source: U.S. PIRG, 2000. Compiled from the U.S. Environmental Protection Agency Permit Compliance System data, October 1997 - December 1998

Table 5

States and Territories Ranked by Number Of Major Industrial Facilties IN SNC

OCTOBER 1997 - DECEMBER 1998

RANK	STATE	# INDUSTRIAL	# INDUSTRIAL IN SNC	INDUSTRIAL % SNC
1	FL	123	74	60.16%
2	TX	203	55	27.09%
3	AL	91	52	57.14%
4	PR	60	46	76.67%
5	OH	111	45	40.54%
6	NY	129	34	26.36%
7	PA	125	28	22.40%
8	IN	68	28	41.18%
9	LA	145	28	19.31%
10	CT	45	19	42.22%
11	MI	86	17	19.77%
12	WA	41	15	36.59%
13	MA	54	13	24.07%
14	KY	54	13	24.07%
15	WI	48	12	25.00%
16	MO	46	12	26.09%
17	NJ	71	11	15.49%
18	WV	56	11	19.64%
19	NE	25	11	44.00%
20	SC	84	10	11.90%
21	NC	85	9	10.59%
22	IL	82	9	10.98%
23	VA	53	8	15.09%
24	KS	12	8	66.67%
25	MS	32	7	21.88%
26	UT	9	7	77.78%
27	ME	31	6	19.35%
28	TN	39	6	15.38%
29	IA	31	6	19.35%
30	AR	42	5	11.90%
31	MT	18	5	27.78%
32	WY	15	5	33.33%
33	MD	38	4	10.53%
34	MN	27	4	14.81%
35	CO	29	4	13.79%
36	AK	26	4	15.38%
37	NH	25	3	12.00%
38	VI	4	3	75.00%
39	GA	45	3	6.67%
40	OK	28	3	10.71%
41	SD	7	3	42.86%
42	CA	67	3	4.48%
43	ID	37	3	8.11%
44	RI	8	2	25.00%
45	VT	7	2	28.57%
46	OR	23	2	8.70%
47	DC	2	1	50.00%
48	NM	9	1	11.11%
49	AZ	16	1	6.25%
50	DE	16	0	0.00%
51	ND	8	0	0.00%
52	HI	16	0	0.00%
53	NV	3	0	0.00%

Source: U.S. PIRG, 2000. Compiled from the U.S. Environmental Protection Agency Permit Compliance System data, October 1997 - December 1998

Table 6

States and Territories Ranked by Percentage of Major Industrial Facilities in SNC

OCTOBER 1997 - DECEMBER 1998

RANK	STATE	# INDUSTRIAL	# INDUSTRIAL IN SNC	INDUSTRIAL % SNC
1	UT	9	7	77.78%
2	PR	60	46	76.67%
3	VI	4	3	75.00%
4	KS	12	8	66.67%
5	FL	123	74	60.16%
6	AL	91	52	57.14%
7	DC	2	1	50.00%
8	NE	25	11	44.00%
9	SD	7	3	42.86%
10	CT	45	19	42.22%
11	IN	68	28	41.18%
12	OH	111	45	40.54%
13	WA	41	15	36.59%
14	WY	15	5	33.33%
15	VT	7	2	28.57%
16	MT	18	5	27.78%
17	TX	203	55	27.09%
18	NY	129	34	26.36%
19	MO	46	12	26.09%
20	RI	8	2	25.00%
21	WI	48	12	25.00%
22	MA	54	13	24.07%
23	KY	54	13	24.07%
24	PA	125	28	22.40%
25	MS	32	7	21.88%
26	MI	86	17	19.77%
27	WV	56	11	19.64%
28	ME	31	6	19.35%
29	IA	31	6	19.35%
30	LA	145	28	19.31%
31	NJ	71	11	15.49%
32	TN	39	6	15.38%
33	AK	26	4	15.38%
34	VA	53	8	15.09%
35	MN	27	4	14.81%
36	CO	29	4	13.79%
37	NH	25	3	12.00%
38	SC	84	10	11.90%
39	AR	42	5	11.90%
40	NM	9	1	11.11%
41	IL	82	9	10.98%
42	OK	28	3	10.71%
43	NC	85	9	10.59%
44	MD	38	4	10.53%
45	OR	23	2	8.70%
46	ID	37	3	8.11%
47	GA	45	3	6.67%
48	AZ	16	1	6.25%
49	CA	67	3	4.48%
50	DE	16	0	0.00%
51	ND	8	0	0.00%
52	HI	16	0	0.00%
53	NV	3	0	0.00%

Source: U.S. PIRG, 2000. Compiled from the U.S. Environmental Protection Agency Permit Compliance System data, October 1997 - December 1998

Table 7
Facilities with CWA Permits in SNC ALL 5 QUARTERS

State	Facility Name	OCT-DEC97	JAN-MAR98	APR-JUN98	JUL-SEP-98	OCT-DEC98
AL	ECC AMERICA CALCIUM SYLACAUGA	D	D	E	E	D
AL	FLORENCE CITY OF CYPRESS CREEK	X	X	S	X	X
AL	JIM WALTER RESOURCES MINE 4	E	D	E	E	X
AL	RUSSELLVILLE CITY OF WWTP	X	X	S	S	S
AL	JIM WALTER RESOURCES MINE 7	E	E	E	D	D
AL	JIM WALTER RESOURCES MINE 5	E	E	D	D	D
AL	MERSCOT AUBURN LTD H C MORGAN	S	X	D	E	E
AL	GULF STATES STEEL INC	E	E	E	E	E
AR	FORT SMITH, CITY OF (MASSARD W	S	S	S	S	S
AR	FORT SMITH, CITY OF ("P" STREE	S	S	S	S	S
AZ	TOLLESON, CITY OF	X	X	X	X	X
CT	MILLSTONE NUCLEAR POWER STA	D	D	D	D	D
CT	SOLVENTS RECOVERY OF N.E.,INC.	D	D	D	D	D
CT	MIDDLETOWN STP/WATER&SEWER	S	S	S	S	S
CT	PLYMOUTH WPCF	E	E	E	E	E
CT	MONTVILLE STP	E	E	E	E	E
CT	STAMFORD STP	X	X	X	X	X
CT	NORWALK STP	X	D	D	D	D
FL	IMC_AGRICO CO _ PORT SUTTON	S	S	S	S	S
FL	USN NAS JACKSONVILLE STP	D	D	D	D	D
FL	USN NAS PENSACOLA STP	D	D	D	D	X
FL	NEW SMYRNA BEACH STP	X	X	X	X	X
FL	NEW PORT RICHEY WTP	D	D	X	X	X
FL	DAYTONA BCH REG/BETH PT WWTP'S	X	D	X	X	X
FL	PRATT & WHITNEY (IW)	D	D	D	X	D
FL	HILLSBOROUGH CO_SOUTHWEST WTP	S	S	S	S	S
FL	TAMPA ELECTRIC CO_DINNER LAKE	D	D	D	D	D

SNC Codes: E=monthly effluent violation; X=non-monthly effluent violation; S=compliance schedule violations; D=DMR non-receipt; T=compliance schedule report

State	Facility Name	OCT-DEC97	JAN-MAR98	APR-JUN98	JUL-SEP-98	OCT-DEC98
FL	ATLANTIC BEACH WWTP	S	D	D	D	D
FL	APALACHICOLA, CITY OF	S	S	S	S	S
FL	PUNTA GORDA WWTP	S	S	S	S	S
FL	MACCLENNY WTP	S	D	D	D	D
FL	HARDEE POWER STA_TECO PWR STA	D	D	D	D	D
FL	TAMPA ELEC_POLK POWER STATION	D	D	D	D	D
FL	AMERISTEEL CORPORATION	D	D	D	D	D
FL	BRIDGEWAY ACRES CLASS I	D	D	D	D	D
GA	SWAINSBORO WPCP	E	E	E	E	E
GA	CAMILLA WPCP	E	E	E	E	E
GA	HARTWELL WPCP	E	E	E	E	E
GA	STOCKBRIDGE WPCP	E	E	E	E	E
HI	US NAVY	X	X	X	X	X
IA	OTTUMWA CITY OF STP	S	S	S	S	S
IL	EXCEL AUTOMOTIVE	E	E	E	E	E
IN	U.S. STEEL _ GARY WORKS, USX C	S	S	S	S	S
IN	PSI WABASH RIVER GEN. STATION	E	E	E	E	E
IN	ELI LILLY & CO. TIPPECANOE LAB	D	D	D	D	D
IN	EAST CHICAGO_MUNICIPAL STP	E	E	E	E	E
IN	GARY WASTEWATER TREATMENT PLT	S	S	S	S	S
IN	HAMMOND MUNICIPAL STP	E	E	S	S	S
IN	NEW ALBANY MUNICIPAL STP	S	S	S	S	S
IN	VINCENNES MUNICIPAL STP	X	X	X	X	X
IN	FORT WAYNE MUNICIPAL STP	T	T	T	E	E
IN	CRAWFORDSVILLE MUNICIPAL STP	S	S	S	S	S
IN	DECATUR MUNICIPAL STP	S	S	S	S	S
KS	TOPEKA MWWTP (NORTH PLANT)	D	D	D	D	D
KS	JO. CO. MILL CK REGIONAL WWTP	D	D	D	D	D
KY	MT STERLING STP	X	X	X	X	X
KY	MCCRACKEN CO SD #3 REIDLAND	D	D	D	E	D

SNC Codes: E=monthly effluent violation; X=non-monthly effluent violation; S=compliance schedule violations; D=DMR non-receipt; T=compliance schedule report

State	Facility Name	OCT-DEC97	JAN-MAR98	APR-JUN98	JUL-SEP-98	OCT-DEC98
KY	SOMERSET STP	X	X	X	S	X
KY	ARVIN ROLL COATER INC	D	E	X	E	E
LA	AIR PROD & CHEM INC_NEW ORLEAN	S	S	S	S	S
LA	FORMOSA PLASTICS_BATON ROUGE	X	E	E	E	D
LA	NESTE RESINS CORP _ WINNFIELD	E	E	E	E	E
LA	LAKE CHARLES, CITY OF (PLANT C	X	S	X	X	X
LA	E BATON ROUGE CITY_PAR (SOUTH)	S	S	S	S	S
LA	BATON ROUGE PH CENTRAL STP	S	S	S	S	S
LA	E BATON ROUGE CITY_PAR (NORTH)	E	E	X	X	X
LA	HOMER, CITY OF _ WWTP	E	E	E	E	E
LA	GONZALES, TOWN OF	X	E	E	E	S
LA	MONROE, CITY OF (WPC CNTR)	E	X	X	X	X
LA	JENNINGS, CITY OF	E	E	E	D	D
LA	NEW IBERIA, CITY OF (ADMIRAL D	D	E	E	E	E
LA	PONCHATOULA, CITY OF	E	E	E	E	E
LA	ST MARY PARISH WARDS 5 & 8_MO	S	S	S	S	S
MA	SOUTH ESSEX SEWERAGE DIST	S	S	S	S	S
MA	PLYMOUTH W W T P	S	S	S	X	S
MA	WINCHENDON W P C F	X	X	X	X	X
MA	EAST FITCHBURG W W T F	X	X	X	X	X
MA	CHARLTON W W T P	D	D	D	E	E
MA	MIDDLEBOROUGH WPCF	E	E	E	E	E
MD	BALTI CITY DPW ASHBURTON FILT	S	S	S	S	S
MI	TENNECO PACKAGING INC	D	D	D	D	D
MI	NAT STEEL CORP_GLD_ECORSE	X	X	X	X	X
MI	MEDUSA CEMENT CO_CHARLEVOIX	D	D	D	D	S
MI	GOGEBIC_IRON WW AUTHORITY WWTP	X	X	E	E	X
MI	WAYNE CO_DPW WYANDOTTE WWTP	E	E	X	X	X
MI	BAY CITY WWTP	E	E	D	S	S
MI	BIG RAPIDS WWTP	E	E	E	E	T

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State	Facility Name	OCT-DEC97	JAN-MAR98	APR-JUN98	JUL-SEP-98	OCT-DEC98
MI	BUCHANAN WWTP	T	T	T	T	T
MI	DETROIT WWTP	E	E	S	S	S
MI	FLINT WWTP	E	E	E	E	E
MI	MIDLAND WWTP	S	S	S	S	S
MI	PETOSKEY WWTP	E	E	E	E	E
MI	WYOMING WWTP	S	S	S	S	S
MI	GRAND RAPIDS WWTP	T	T	T	T	T
MI	BIL MAR FOODS	X	S	S	S	S
MI	GREAT LAKES PULP & FIBRE	S	S	S	S	S
MN	CAMBRIDGE	D	D	D	D	D
MN	CYPRUS NORTHSHORE MINING CORP	D	D	D	D	D
MN	MOORHEAD	S	S	S	S	S
MN	FERGUS FALLS	D	D	D	D	D
MN	NORTHSHORE MINING/SILVER BAY P	S	S	S	S	S
MO	FESTUS_CRYSTAL CITY STP	X	X	X	X	X
MT	POLSON_ CITY OF (E)	D	D	D	D	D
NC	CLEVELAND MILLS COMPANY	X	X	X	X	X
NC	TRYON WWTP, TOWN OF	X	X	X	X	X
NC	WILSON WWTP, TOWN OF	E	E	E	E	E
NC	HIGH POINT, WEST SIDE WWTP	X	X	X	X	X
NC	WAYNESVILLE WWTP, TOWN OF	D	S	S	S	S
NC	FUQUAY_VARINA WWTP (EXISTING)	X	X	X	X	X
NE	IBP INC DAKOTA CITY	S	S	S	S	S
NE	BEATRICE WWTF	E	E	E	E	E
NE	MCCOOK WWTF	E	E	E	E	E
NE	AURORA WWTF	S	S	S	S	S
NE	KAWASAKI MOTORS CORP	E	E	X	D	D
NE	COZAD WWTF	S	E	S	S	S
NH	PITTSFIELD W W T F	E	E	E	E	S
NJ	RAHWAY VALLEY SEWERAGE AUTH	D	D	D	D	D

SNC Codes: E=monthly effluent violation; X=non-monthly effluent violation; S=compliance schedule violations; D=DMR non-receipt; T=compliance schedule report

State	Facility Name	OCT-DEC97	JAN-MAR98	APR-JUN98	JUL-SEP-98	OCT-DEC98
NJ	RIDGEWOOD VILLAGE OF WPCP	E	E	E	E	E
NJ	FIRMENICH INCORPORATED	D	D	D	D	D
NY	CIBA_GEIGY CORP	D	D	D	D	D
NY	BINGHAMTON_JOHNSON CITY JNT BD	X	X	X	X	X
NY	CORNING (C) STP	E	E	S	S	X
NY	JAMAICA WPC	X	X	X	X	X
NY	FULTON (C) WPCP	X	X	X	X	X
NY	DUNKIRK (C) WWTP	D	D	X	D	D
OH	DETREX CORP.	X	S	S	S	S
OH	TITANIUM METALS CORP.	S	S	S	S	E
OH	AMHERST, CITY OF	S	S	S	S	S
OH	HEATH, CITY OF	E	E	E	E	E
OH	STEUBENVILLE, CITY OF	S	S	S	S	S
OH	WASHINGTON C.H., CITY OF	S	S	S	S	S
OH	LAKE CO. BD OF COMM.	S	S	S	S	S
OH	PICKAWAY CORRECTIONAL FACILIT	E	E	E	E	E
OH	RESERVE ENVIRONMENTAL SERVICES	X	X	X	X	X
OK	POTEAU, CITY OF (POTEAU RIVER)	E	E	E	E	E
OK	FORT GIBSON UTILITIES AUTHORIT	D	E	E	S	S
OK	SEMINOLE, CITY OF WASTEWATER F	E	E	S	S	S
OK	CHECOTAH PWA	D	D	S	S	S
PA	GPU GENCO INC	E	E	E	E	E
PA	KOPPEL STEEL CORP	E	E	E	E	E
PA	ZINC CORP OF AMERICA _ PALMERT	E	E	E	E	E
PA	AMBLER BORO	E	E	E	E	E
PA	SCHUYLKILL HAVEN MUN AUTH	S	E	S	S	S
PR	LILLY DEL CARIBE INC.	D	D	D	D	D
PR	CARIBBEAN PETROLEUM CORPORATON	X	X	X	X	X
PR	UNION CARBIDE CARIBE LLC	X	X	X	X	X
PR	GENERAL ELECTRIC CONTROLS	X	D	X	X	D

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State	Facility Name	OCT-DEC97	JAN-MAR98	APR-JUN98	JUL-SEP-98	OCT-DEC98
PR	BACARDI CORP	D	D	D	D	D
PR	PUERTO RICO ELECTRIC PWR AUTH	X	X	X	X	X
PR	BILCHEM LTD	D	D	D	D	D
PR	PUERTO RICO CEMENT INC.	X	X	X	X	X
PR	FLORIDA LIME CORPORATION	X	X	D	D	D
PR	PUERTO RICO ELECTRIC PWR AUTH	S	S	S	S	S
PR	PUERTO RICO ELECTRIC PWR AUTH	S	S	S	S	S
PR	SAN JUAN CEMENT CO INC	E	E	E	E	E
PR	PUERTO RICO ELECTRIC PWR AUTH	S	S	S	S	S
PR	PRASA AGUAS BUENAS	X	X	X	X	X
PR	PRASA CEIBA	S	S	S	S	S
PR	PRASA CIALES	X	X	X	X	X
PR	PRASA COROZAL	X	X	X	X	X
PR	PRASA DORADO	X	X	X	X	X
PR	PRASA JUNCOS	X	X	X	X	X
PR	PRASA OROCOVIS	X	X	X	X	X
PR	PRASA PATILLAS	X	X	X	X	X
PR	PRASA SAN GERMAN	X	X	X	X	X
PR	PRASA SAN LORENZO	X	X	X	X	X
PR	PRASA VEGA ALTA	X	X	X	X	X
PR	TEXACO GUAYANILLA TERMINAL	D	D	D	D	X
PR	BETTER ROADS ASPHALT CORP	D	D	D	D	D
PR	PRASA BARCELONETA	X	X	X	X	X
PR	SYNTEX F.P. INC	D	D	D	D	D
PR	CARIBE ISOPRENE CORP	D	D	D	D	D
PR	PRASA PONCE STP	S	S	S	S	S
PR	PRASA YAUCO STP	E	E	E	E	E
PR	PRASA VEGA BAJA STP	E	E	E	E	E
PR	PRASA FAJARDO STP	X	X	X	X	X
PR	PRASA YABUCOA STP	S	S	S	S	S
PR	SB PHARMCO	X	X	X	X	X

SNC Codes: E=monthly effluent violation; X=non-monthly effluent violation; S=compliance schedule violations; D=DMR non-receipt; T=compliance schedule report

Appendix B, Table 7

State	Facility Name	OCT-DEC97	JAN-MAR98	APR-JUN98	JUL-SEP-98	OCT-DEC98
PR	PRASA TOA ALTA HEIGHTS	X	X	X	X	X
PR	PRASA ISABELA	X	X	X	X	X
PR	PRASA WTP SERGIO CUEVAS	S	S	S	S	S
PR	PRASA WTP GUAYNABO	S	S	S	S	S
PR	PRASA WTP ENRIQUE ORTEGA	S	S	S	S	S
PR	PRASA WTP AGUAS BUENAS	X	X	X	X	X
PR	PRASA WTP LAJAS FILTER PLANT	S	S	S	S	S
PR	MAYAGUEZ WATER TREATMENT CO IN	E	E	E	E	E
PR	PRASA ARECIBO	X	X	X	X	X
PR	PRASA BAYAMON	X	X	X	X	X
PR	PRASA AGUADILLA	X	X	X	X	X
PR	PRASA CAMUY	X	X	X	X	X
PR	PRASA SANTA ISABEL	X	X	X	X	X
PR	PRASA MAYAGUEZ R W W T P	E	E	E	E	E
PR	PRASA WTP EL YUNQUE FILTR PLT	X	X	X	X	X
PR	PRASA WTP CIALES	X	S	S	S	S
PR	PRASA WTP NEGROS	X	X	X	X	X
PR	GUERRERO THERAPEUTICAL	E	E	D	D	D
PR	ZARZAL PENAL CAMP WASTE WTP	S	S	S	S	S
PR	GUAVATE PENAL CAMP WTP	X	X	X	D	X
PR	PRASA LAS CAROLINAS STP.	X	X	X	X	X
PR	PRASA CAYEY RWWTP	X	X	X	X	X
PR	PRASA HUMACAO WWTP	X	X	X	X	X
PR	PRASA GUAYAMA REGIONAL WWTP	X	X	X	X	X
PR	PRASA AIBONITO WWTP	E	E	E	E	E
PR	PRASA SAN SEBASTIAN WWTP	X	X	X	X	X
PR	PRASA COMERIO WASTE WATER TREA	X	X	X	X	X
PR	PRASA LARES WWTP	X	X	X	X	X
PR	PRASA _ CAGUAS RWWTP	X	X	X	X	X
PR	ECOELECTRICA LNG & COGENERATIO	D	D	D	D	D

SNC Codes: E=monthly effluent violation; X=non-monthly effluent violation; S=compliance schedule violations; D=DMR non-receipt; T=compliance schedule report

State	Facility Name	OCT-DEC97	JAN-MAR98	APR-JUN98	JUL-SEP-98	OCT-DEC98
RI	NARRAGANSETT BAY COMM_BUCKLIN	X	X	X	X	X
RI	WOONSOCKET WWTF	S	S	E	E	E
SC	CHESTER/ROCKY CREEK PLANT	E	X	X	E	E
TN	MURRAY INC.	E	E	E	E	E
TN	LAWRENCEBURG STP	E	E	E	D	E
TN	BRISTOL STP #2	X	X	X	X	X
TN	BROWNSVILLE STP	X	X	X	X	X
TX	UNION ACQUISITION CORP.	X	X	X	X	X
TX	MARLIN, CITY OF	E	E	E	E	E
TX	WYMAN_GORDON FORGINGS, INC.	E	D	E	E	E
TX	HARLINGEN, CITY OF (STP #0002)	S	E	E	X	E
TX	SOUTHWESTERN ELEC PWR_WILKES	E	E	E	E	E
TX	PHARR, CITY OF	E	E	E	S	S
UT	TREMONTON CITY CORP	D	D	D	D	D
UT	SUNNYSIDE COAL COMPANY	D	D	D	D	D
VI	WATER & POWER AUTHORITY	D	D	D	D	X
VI	DEPT OF PUB WORKS_CHARLOTTE AM	D	D	E	D	D
VT	POULTNEY MTP	S	S	S	S	S
WI	WI ELECTRIC POWER CO PL PRAIRI	X	X	X	X	X
WV	QUALA SYSTEMS, INCORPORATED	D	D	D	D	E

SNC Codes: E=monthly effluent violation; X=non-monthly effluent violation; S=compliance schedule violations; D=DMR non-receipt; T=compliance schedule report

Appendix C:

EPA Memorandum

From: LISA RAYMER
To: PCS-STATE-COORD, PCS-REG-COORD
Date: 4/1/99 3:32pm
Subject: PIRG FOIA REQUEST

THE U.S. PUBLIC INTEREST GROUP (PIRG) HAS REQUESTED THE FOLLOWING INFORMATION FROM THE PERMIT COMPLIANCE SYSTEM THRU THE FREEDOM OF INFORMATION ACT.

1.) THE NUMBER OF ALL MAJOR MUNICIPAL, FEDERAL AND INDUSTRIAL FACILITIES IN "SIGNIFICANT NONCOMPLIANCE" FOR ANY OF THE MOST RECENT FIVE QUARTERS. THE MOST RECENT FIVE QUARTERS WE WILL PULL ARE FY98 Q1, 2,3,4 and FY99 Q1.

2.) A BREAKDOWN BY STATE OF THE NUMBER OF MAJOR MUNICIPAL, INDUSTRIAL, AND FEDERAL FACILITIES IN "SIGNIFICANT NONCOMPLIANCE" AND PLACED ON A SCHEDULE TO BRING THEM INTO COMPLIANCE.

3.) A BREAKDOWN BY STATE OF THE NUMBER OF MAJOR MUNICIPAL, INDUSTRIAL AND FEDERAL FACILITIES IN "SIGNIFICANT NONCOMPLIANCE" OR ON COMPLIANCE SCHEDULES WHO DO NOT MEET FINAL PERMIT LIMITS.

4.) NAMES AND LOCATIONS OF COMPANIES IN EACH STATE THAT WERE IN "SIGNIFICANT NONCOMPLIANCE" IN ANY OF THE FIVE MOST RECENT QUARTERS.

5) THE REASON FOR "SIGNIFICANT NONCOMPLIANCE" AMONG FACILITIES WITH: EFFLUENT VIOLATIONS, SCHEDULING VIOLATIONS, AND DMR REPORTING VIOLATIONS.

****
PCS RETRIEVALS WHICH WILL BE RUN TO PROVIDE THE ABOVE INFORMATION.
****

- MOVING BASE RETRIEVALS FOR THE 1ST, 2ND,3RD AND 4TH QTR OF FY98 AND THE 1ST QTR OF FY99 WILL BE RUN TO PROVIDE THE INFORMATION REQUESTED IN NUMBERS 1, 2, AND 3.

THE RETRIEVAL LOGIC FOR THE MOVING BASE REPORTS CAN BE FOUND IN THE FILE:

MVMA040.PIRG(MB)

A QUICKFILE AND SAS RETRIEVAL WILL BE USED TO PROVIDE NUMBERS 4 AND 5. THE SAS IS NECESSARY TO TAKE THE MANUAL FLAGS INTO CONSIDERATION.

THE QUICKFILE LOGIC CAN BE FOUND IN THE FILE:

MVMA040.PIRG(QF)

AFTER THIS HAS RUN SUCCESSFULLY, SUBMIT THE FOLLOWING TO GENERATE THE SNC LIST FOR THE FIVE QUARTERS:

MVMA040.PIRG(SNCLIST)

NOTE: BE SURE TO COPY AND THEN MODIFY THE 3 SETS OF JCL TO INCLUDE YOUR USERID, ACCOUNT, AND BOX NUMBER. (SEE INSTRUCTIONS IN THE JCL FOR SPECIFICS)

****

THE PULLS WILL BE MADE FROM PCS ON APRIL 30, 1999.
****

ALSO, PCS Regional Coordinators please note that I did include all state coordinators, who we have an e-mail address for, in the e-mail. I would ask that you please review the state recipients, if possible, to make sure that your states were sent this message. If reviewing the state recipient list is too cumbersome or simply not possible, please send another copy of this request to your states anyway. We really would like to avoid any and all surprises this year!!!!!!

IF YOU HAVE ANY QUESTIONS PLEASE CONTACT ME AT 202-564-7059.

Thank-you,
Lisa Raymer

CC: REED-LUCY, SPINELLI-GLENDORA, LEWIS-JOE, CORPUZ-JI...

Appendix D:

Discharge Summaries for Major Multi-State Bodies of Water

The Mississippi River

Total toxic pollution reported in 1997: 57,698,880 Pounds

Table 1. States discharging the greatest amounts of toxic chemicals to the Mississippi River in 1997.

State	Toxic chemical release to water (pounds)	Percent of total release
Louisiana	45,580,758	79
Mississippi	8,218,709	14.2
Missouri	2,257,442	3.9
Tennessee	510,112	0.9

Table 2. Polluters discharging the greatest amounts of toxic chemicals to the Mississippi River in 1997.

Facility	Facility Location	Toxic chemical release to water (pounds)
PCS Nitrogen Fertilizer L.P.	Geismar, LA	29,773,715
Vicksburg Chemical Co.	Vicksburg, MS	8,122,845
IMC-Agrico Co. Faustina Plant	Saint James, LA	4,982,487
Exxon Co. USA Baton Rouge	Baton Rouge, LA	4,100,718
IMC-Agrico Co. Uncle Sam Plant	Uncle Sam, LA	2,555,826
BASF Corp.	Geismar, LA	1,402,410
Dyno Nobel Inc. Lomo Plant	Louisiana, MO	680,000
Mapico Inc.	Saint Louis, MO	641,837
CF Ind. Inc.	Donaldsonville, LA	583,105
Biokyowa Inc.	Cape Girardeau, MO	535,843

Table 3. Toxic chemicals discharged in the greatest amounts to theMississippi River in 1997.

Chemical	Toxic chemical release to water (pounds)
Phosphoric acid	36,655,438
Nitrate compounds	17,290,391
Ammonia	2,164,392
Methanol	381,048
Manganese compounds	322,114
Zinc compounds	121,808
Acetonitrile	104,413
Formic acid	84,331
Barium compounds	81,192
Ethylene glycol	49,079

* Carcinogens and reproductive toxins defined by the State of California Proposition 65 and U.S. EPA. See full report for references.

Table 4. Total carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Mississippi River in 1997.

Carcinogens	127,749 Pounds
Persistent Toxic Metals	580,764 Pounds
Reproductive Toxins	9,590 Pounds
Total **	684,963 Pounds

Table 5. Polluters reporting the greatest amounts of carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Mississippi River in 1997.

Top dischargers of carcinogens* to the Mississippi River in 1997.

Facility	Facility City	Carcinogens released to water (lbs)
Union Carbide Corp. Taft/Star	Taft, LA	26,757
PCS Nitrogen Fertilizer L.P.	Geismar, LA	14,000
Ferro Corp. Grant Chemical	Zachary, LA	12,340
Westvaco Corp.	Wickliffe, KY	11,750
Buckman Labs. Inc.	Memphis, TN	9,957

Top dischargers of persistent toxic metals to the Mississippi River in 1997.

Facility	Facility City	Persistent metals to water (lbs)
Georgia-Pacific Corp. Port	Zachary, LA	260,000
PCS Nitrogen Fertilizer L.P.	Geismar, LA	129,600
Crown Paper Co.	Saint Francisville, LA	47,000
Westvaco Corp.	Wickliffe, KY	28,800
Hermann Oak Leather Co.	Saint Louis, MO	13,698

Top dischargers of reproductive toxins* to the Mississippi River in 1997.

Facility	Facility City	Reproductive toxins to water (lbs)
Union Carbide Corp. Taft/Star	Taft, LA	4,132
Mapco Petroleum Inc.	Memphis, TN	1,952
Malllinckrodt Inc.	Saint Louis, MO	1,332
PM Resources Inc.	Bridgeton, MO	457
3M Cordova Plant	Cordova, IL	350

****** The sum of carcinogens, persistent toxic metals, and reproductive toxins listed in Table 3 may be larger than the total because a chemical may be in more than one category. Chemicals were counted only once for the total in Table 3.

Source: U.S. PIRG. Compiled from U.S. Environmental Protection Agency, Toxics Release Inventory, 1997.

Phone: 202-546-9707 Fax: 202-546-2461 Email: uspirg@pirg.org Web: www.pirg.org

The Ohio River

Total toxic pollution reported in 1997: 9,394,678 Pounds

Table 1. States discharging the greatest amounts of toxic chemicals to the Ohio River in 1997.

State	Toxic chemical release to water (pounds)	Percent of total release
West Virginia	4,227,903	45
Ohio	2,661,287	28.3
Pennsylvania	1,716,498	18.3
Indiana	392,598	4.2

Table 2. Polluters discharging the greatest amounts of toxic chemicals to the Ohio River in 1997.

Facility	Facility Location	Toxic chemical release to water (pounds)
Bayer Corp.	New Martinsville, WV	3,206,967
J & L Specialty Steel Inc.	Midland, PA	1,700,309
Elkem Metals Co.	Marietta, OH	784,000
Shell Chemical Co.	Belpre, OH	520,849
Cytec Ind.	Willow Island, WV	425,085
Shepherd Chemical Co.	Cincinnati, OH	353,101
Cincinnati Specialties Inc.	Cincinnati, OH	288,720
Alcoa Warrick Ops.	Newburgh, IN	207,104
GE Plastics Co.	Mount Vernon, IN	183,494
Du Pont Washington Works	Washington, WV	179,717

Table 3. Toxic chemicals discharged in the greatest amounts to theOhio River in 1997.

Chemical	Toxic chemical release to water (pounds)
Nitrate compounds	6,802,098
Ammonia	776,356
Manganese compounds	510,941
Methanol	480,827
Glycol ethers	234,589
Cyanide compounds	108,303
Sodium nitrite	98,326
Phosphoric acid	58,990
Zinc compounds	44,225
Ethylene glycol	38,843

* Carcinogens and reproductive toxins defined by the State of California Proposition 65 and U.S. EPA. See full report for references.

Table 4. Total carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Ohio River in 1997.

Carcinogens	69,595 Pounds
Persistent Toxic Metals	641,150 Pounds
Reproductive Toxins	12,466 Pounds
Total **	711,537 Pounds

Table 5. Polluters reporting the greatest amounts of carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Ohio River in 1997.

Top dischargers of carcinogens* to the Ohio River in 1997.

Facility	Facility City	Carcinogens released to water (lbs)
Olin Chemicals & Chlor Alkali	Brandenburg, KY	18,407
Cincinnati Specialties Inc.	Cincinnati, OH	15,261
Solutia Port Plastics	Addyston, OH	12,000
Willamette Ind. Inc.	Hawesville, KY	3,848
Hilton Davis Inc.	Cincinnati, OH	3,815

Top dischargers of persistent toxic metals to the Ohio River in 1997.

Facility	Facility City	Persistent metals to water (lbs)
Elkem Metals Co.	Marietta, OH	453,000
Weirton Steel Corp.	Weirton, WV	84,721
Willamette Ind. Inc.	Hawesville, KY	30,281
Sun Chemical Corp. Cincinnati	Cincinnati, OH	20,102
CDR Pigments & Dispersions	Woodlawn, OH	15,335

Top dischargers of reproductive toxins* to the Ohio River in 1997.

Facility	Facility City	Reproductive toxins to water (lbs)
OSI Specialties Inc.	Friendly, WV	7,235
Olin Chemicals & Chlor Alkali	Brandenburg, KY	2,408
Shenango Inc.	Pittsburgh, PA	500
Countrymark Refinery	Mount Vernon, IN	500
PPG Ind. Inc.	New Martinsville, WV	372

****** The sum of carcinogens, persistent toxic metals, and reproductive toxins listed in Table 3 may be larger than the total because a chemical may be in more than one category. Chemicals were counted only once for the total in Table 3.

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The Savannah River

Total toxic pollution reported in 1997: 4,771,110 Pounds

Table 1. States discharging the greatest amounts of toxic chemicals to the Savannah River in 1997.

State	Toxic chemical release to water (pounds)	Percent of total release
Georgia	4,569,060	95.8
South Carolina	202,050	4.2

Table 2. Polluters discharging the greatest amounts of toxic chemicals to the Savannah River in 1997.

Facility	Facility Location	Toxic chemical release to water (pounds)
DSM Chemicals N.A. Inc.	Augusta, GA	2,417,169
Engelhard Corp. Savannah Ops.	Savannah, GA	1,012,787
Union Camp Corp.	Savannah, GA	338,670
PCS Nitrogen Fertilizer L.P.	Augusta, GA	290,500
Clariant Corp. Martin Plant	Martin, SC	201,950
International Paper Augusta	Augusta, GA	200,646
Kemira Pigments Inc.	Savannah, GA	91,470
PCS Nitrogen Fertilizer LP	Port Wentworth, GA	69,791
Monsanto Co.	Augusta, GA	44,489
Stone Savannah River Pulp &	Port Wentworth, GA	42,371

Table 3. Toxic chemicals discharged in the greatest amounts to theSavannah River in 1997.

Chemical	Toxic chemical release to water (pounds)
Nitrate compounds	4,061,687
Methanol	200,794
Ammonia	179,249
Manganese compounds	153,300
Zinc compounds	91,651
Barium compounds	55,200
Chromium compounds	9,000
Glycol ethers	3,720
Nickel compounds	3,439
Acetaldehyde	3,387

Table 4. Total carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Savannah River in 1997.

Carcinogens	8,620 Pounds
Persistent Toxic Metals	312,596 Pounds
Reproductive Toxins	674 Pounds
Total **	318,450 Pounds

Table 5. Polluters reporting the greatest amounts of carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Savannah River in 1997.

Top dischargers of carcinogens* to the Savannah River in 1997.

Facility	Facility City	Carcinogens released to water (lbs)
Kemira Pigments Inc.	Savannah, GA	2,700
Union Camp Corp.	Savannah, GA	2,120
International Paper Augusta	Augusta, GA	1,425
Stone Savannah River Pulp &	Port Wentworth, GA	1,157
Fort James Operating Co.	Rincon, GA	730

Top dischargers of persistent toxic metals to the Savannah River in 1997.

Facility	Facility City	Persistent metals to water (lbs)
International Paper Augusta	Augusta, GA	170,740
Kemira Pigments Inc.	Savannah, GA	90,700
Union Camp Corp.	Savannah, GA	50,700
DSM Chemicals N.A. Inc.	Augusta, GA	351
Searle Monsanto-Augusta GA	Augusta, GA	99

Top dischargers of reproductive toxins* to the Savannah River in 1997.

Facility	Facility City	Reproductive toxins to water (lbs)
Union Camp Corp.	Savannah, GA	630
Rutgers Organics Corp.	Augusta, GA	24
Searle Monsanto-Augusta GA	Augusta, GA	15
DSM Chemicals N.A. Inc.	Augusta, GA	3
International Flavors &	Augusta, GA	2

* Carcinogens and reproductive toxins defined by the State of California Proposition 65 and U.S. EPA. See full report for references.

****** The sum of carcinogens, persistent toxic metals, and reproductive toxins listed in Table 3 may be larger than the total because a chemical may be in more than one category. Chemicals were counted only once for the total in Table 3.

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The Delaware River

Total toxic pollution reported in 1997: 4,378,209 Pounds

Table 1. States discharging the greatest amounts of toxic chemicals to the Delaware River in 1997.

State	Toxic chemical release to water (pounds)	Percent of total release
New Jersey	3,696,975	84.4
Delaware	490,419	11.2
Pennsylvania	190,815	4.4

Table 2. Polluters discharging the greatest amounts of toxic chemicals to the Delaware River in 1997.

Facility	Facility Location	Toxic chemical release to water (pounds)
Du Pont Chambers Works	Deepwater, NJ	3,086,517
Du Pont Repauno Plant	Gibbstown, NJ	410,074
Ciba Specialty Chemicals Corp.	Newport, DE	185,302
Mallinckrodt Baker Inc.	Phillipsburg, NJ	176,920
Allied-Signal Inc. Frankford	Philadelphia, PA	107,022
Rodel Inc.	Newark, DE	104,550
GMC NAO Wilmington Assembly	Wilmington, DE	68,575
Star Enterprise	Delaware City, DE	50,769
Sun Refining & Marketing Co.	Marcus Hook, PA	36,845
Noramco Of Delaware Inc.	Wilmington, DE	31,075

Table 3. Toxic chemicals discharged in the greatest amounts to theDelaware River in 1997.

Chemical	Toxic chemical release to water (pounds)
Nitrate compounds	2,636,493
Ammonia	352,277
Methanol	259,315
Sodium nitrite	238,230
Nitric acid	235,394
N,N-Dimethylformamide	113,768
Glycol ethers	112,273
1,3-Phenylenediamine	104,112
m-Dinitrobenzene	81,587
2,4-Dinitrophenol	48,869

* Carcinogens and reproductive toxins defined by the State of California Proposition 65 and U.S. EPA. See full report for references.

Table 4. Total carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Delaware River in 1997.

Carcinogens	172,150 Pounds
Persistent Toxic Metals	31,035 Pounds
Reproductive Toxins	92,548 Pounds
Total **	278,660 Pounds

Table 5. Polluters reporting the greatest amounts of carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Delaware River in 1997.

Top dischargers of carcinogens* to the Delaware River in 1997.

Facility	Facility City	Carcinogens released to water (lbs)
Rodel Inc.	Newark, DE	104,550
Noramco Of Delaware Inc.	Wilmington, DE	21,360
Rohm & Haas Co. Philadelphia	Philadelphia, PA	10,630
Du Pont Chambers Works	Deepwater, NJ	10,466
Star Enterprise	Delaware City, DE	6,782

Top dischargers of persistent toxic metals to the Delaware River in 1997.

Facility	Facility City	Persistent metals to water (lbs)
Du Pont Chambers Works	Deepwater, NJ	14,001
Star Enterprise	Delaware City, DE	7,670
Sun Refining & Marketing Co.	Marcus Hook, PA	3,413
NVF Co. Yorklin Complex	Yorklyn, DE	1,885
USS Fairless Works	Fairless Hills, PA	1,700

Top dischargers of reproductive toxins* to the Delaware River in 1997.

Facility	Facility City	Reproductive toxins to water (lbs)
Du Pont Chambers Works	Deepwater, NJ	82,802
Sun Refining & Marketing Co.	Marcus Hook, PA	6,996
Noramco Of Delaware Inc.	Wilmington, DE	2,520
Star Enterprise	Delaware City, DE	150
Zeneca Specialties A Business	New Castle, DE	28

****** The sum of carcinogens, persistent toxic metals, and reproductive toxins listed in Table 3 may be larger than the total because a chemical may be in more than one category. Chemicals were counted only once for the total in Table 3.

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The Hudson River

Total toxic pollution reported in 1997: 2,861,894 Pounds

Table 1. States discharging the greatest amounts of toxic chemicals to the Hudson River in 1997.

State	Toxic chemical release to water (pounds)	Percent of total release
New York	2,859,798	99.9
New Jersey	2,096	0.1

Table 2. Polluters discharging the greatest amounts of toxic chemicals to the Hudson River in 1997.

Facility	Facility Location	Toxic chemical release to water (pounds)
Finch Pruyn & Co. Inc.	Glens Falls, NY	2,464,200
Wyeth Ayerst Pharmaceuticals	Pearl River, NY	149,483
GE Co. Silicone Prods.	Waterford, NY	96,694
Nycomed Inc.	Rensselaer, NY	52,243
GE Plastics	Selkirk, NY	30,885
BASF Corp. Coatings &	Rensselaer, NY	29,360
Engelhard Corp. Peekskill	Peekskill, NY	24,088
Uhlich Color Co. Inc.	Hastings On Hudson, NY	4,780
Kings Electronics Co. Inc.	Tuckahoe, NY	4,769
Coca-Cola Bottling Co. Of New	Elmsford, NY	2,297

Table 3. Toxic chemicals discharged in the greatest amounts to theHudson River in 1997.

Chemical	Toxic chemical release to water (pounds)
Nitrate compounds	2,418,964
Methanol	193,628
Triethylamine	67,314
Ammonia	51,046
2-Methoxyethanol	40,494
Manganese compounds	38,958
Copper compounds	9,916
Zinc compounds	6,520
Barium compounds	6,236
Acetonitrile	6,183

Table 4. Total carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Hudson River in 1997.

Carcinogens	4,303 Pounds
Persistent Toxic Metals	62,529 Pounds
Reproductive Toxins	41,039 Pounds
Total **	107,686 Pounds

Table 5. Polluters reporting the greatest amounts of carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Hudson River in 1997.

Top dischargers of carcinogens* to the Hudson River in 1997.

Facility	Facility City	Carcinogens released to water (lbs)
Wyeth Ayerst Pharmaceuticals	Pearl River, NY	3,811
BASF Corp. Coatings &	Rensselaer, NY	214
GE Plastics	Selkirk, NY	190
Allied-Signal Inc. Friction	Green Island, NY	75
GE Co. Silicone Prods.	Waterford, NY	10

Top dischargers of persistent toxic metals to the Hudson River in 1997.

Facility	Facility City	Persistent metals to water (lbs)
Finch Pruyn & Co. Inc.	Glens Falls, NY	44,200
GE Co. Silicone Prods.	Waterford, NY	15,400
BASF Corp. Coatings &	Rensselaer, NY	1,149
GE Plastics	Selkirk, NY	755
Wyeth Ayerst Pharmaceuticals	Pearl River, NY	662

Top dischargers of reproductive toxins* to the Hudson River in 1997.

Facility	Facility City	Reproductive toxins to water (lbs)
Wyeth Ayerst Pharmaceuticals	Pearl River, NY	40,903
GE Co. Silicone Prods.	Waterford, NY	120
GE Plastics	Selkirk, NY	10
Nycomed Inc.	Rensselaer, NY	6
Spraylat Corp.	Mount Vernon, NY	0

* Carcinogens and reproductive toxins defined by the State of California Proposition 65 and U.S. EPA. See full report for references.

****** The sum of carcinogens, persistent toxic metals, and reproductive toxins listed in Table 3 may be larger than the total because a chemical

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may be in more than one category. Chemicals were counted only once for the total in Table 3.

Source: U.S. PIRG. Compiled from U.S. Environmental Protection Agency, Toxics Release Inventory, 1997.

The Pacific Ocean

Total toxic pollution reported in 1997: 2,181,424 Pounds

Table 1. States discharging the greatest amounts of toxic chemicals to the Pacific Ocean in 1997.

State	Toxic chemical release to water (pounds)	Percent of total release
California	2,084,092	95.5
Oregon	95,228	4.4
Hawaii	2,104	0.1

Table 2. Polluters discharging the greatest amounts of toxic chemicals to the Pacific Ocean in 1997.

Facility	Facility Location	Toxic chemical release to water (pounds)
Louisiana-Pacific Corp. Samoa	Samoa, CA	1,528,210
Mobil Oil Torrance Refinery	Torrance, CA	98,405
Seagate Recording Media	Anaheim, CA	95,212
Arco Prods. Co. La Refinery	Carson, CA	76,480
Tosco Refining Co. Los	Carson, CA	70,069
Georgia-Pacific West Corp.	Toledo, OR	53,198
International Paper Gardiner	Gardiner, OR	42,030
Filtrol Corp.	Los Angeles, CA	36,892
Sony Electronics Inc. Sony	San Diego, CA	35,104
Phibro-Tech Inc.	Santa Fe Springs, CA	29,283

Table 3. Toxic chemicals discharged in the greatest amounts to thePacific Ocean in 1997.

Chemical	Toxic chemical release to water (pounds)
Methanol	1,599,488
Ammonia	171,864
Nitrate compounds	117,300
Methyl tert-butyl ether	90,419
Diethanolamine	68,146
Acetaldehyde	23,440
Phenol	18,110
Manganese compounds	15,005
Copper	14,590
Glycol ethers	12,811

* Carcinogens and reproductive toxins defined by the State of California Proposition 65 and U.S. EPA. See full report for references.

Table 4. Total carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Pacific Ocean in 1997.

Carcinogens	43,023 Pounds
Persistent Toxic Metals	52,212 Pounds
Reproductive Toxins	4,607 Pounds
Total **	91,613 Pounds

Table 5. Polluters reporting the greatest amounts of carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Pacific Ocean in 1997.

Top dischargers of carcinogens* to the Pacific Ocean in 1997.

Facility	Facility City	Carcinogens released to water (lbs)
Louisiana-Pacific Corp. Samoa	Samoa, CA	22,000
UOP Separex Membrane Systems	Anaheim, CA	11,295
Mobil Oil Torrance Refinery	Torrance, CA	4,842
International Paper Gardiner	Gardiner, OR	900
Tosco Refining Co. Los	Carson, CA	709

Top dischargers of persistent toxic metals to the Pacific Ocean in 1997.

Facility	Facility City	Persistent metals to water (lbs)
Georgia-Pacific West Corp.	Toledo, OR	25,400
Power Circuits Inc.	Santa Ana, CA	13,981
Mobil Oil Torrance Refinery	Torrance, CA	5,157
Arco Prods. Co. La Refinery	Carson, CA	2,640
Kwikset Corp.	Anaheim, CA	944

Top dischargers of reproductive toxins* to the Pacific Ocean in 1997.

Facility	Facility City	Reproductive toxins to water (lbs)
Mobil Oil Torrance Refinery	Torrance, CA	2,230
Tosco Refining Co. Los	Carson, CA	1,364
Arco Prods. Co. La Refinery	Carson, CA	918
Details Inc.	Anaheim, CA	58
Edgington Oil Co.	Long Beach, CA	28

****** The sum of carcinogens, persistent toxic metals, and reproductive toxins listed in Table 3 may be larger than the total because a chemical may be in more than one category. Chemicals were counted only once for the total in Table 3.

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The Tennessee River

Total toxic pollution reported in 1997: 2,147,554 Pounds

Table 1. States discharging the greatest amounts of toxic chemicals to the Tennessee River in 1997.

State	Toxic chemical release to water (pounds)	Percent of total release
Alabama	1,373,237	63.9
Tennessee	651,339	30.3
Kentucky	122,978	5.7

Table 2. Polluters discharging the greatest amounts of toxic chemicals to the Tennessee River in 1997.

Facility	Facility Location	Toxic chemical release to water (pounds)
Amoco Chemical Co.	Decatur, AL	670,290
Inland Paperboard & Packaging	New Johnsonville, TN	380,005
Champion Intl. Courtland Mill	Courtland, AL	341,958
Laroche Ind. Inc.	Cherokee, AL	225,723
Du Pont Chattanooga Plant	Chattanooga, TN	169,074
Air Prods. & Chemicals Inc.	Calvert City, KY	78,553
Du Pont Johnsonville Plant	New Johnsonville, TN	72,735
Solutia Inc.	Decatur, AL	48,452
3M	Decatur, AL	41,778
ISP Chemicals Inc.	Calvert City, KY	39,288

Table 3. Toxic chemicals discharged in the greatest amounts to theTennessee River in 1997.

Chemical	Toxic chemical release to water (pounds)
Nitrate compounds	1,186,089
Ammonia	599,587
Manganese compounds	179,599
Barium compounds	68,000
Formaldehyde	33,610
Phosphoric acid	19,100
Cobalt compounds	15,000
Methanol	14,083
Acetaldehyde	7,787
Zinc compounds	5,792

Table 4. Total carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Tennessee River in 1997.

Carcinogens	62,526 Pounds
Persistent Toxic Metals	271,357 Pounds
Reproductive Toxins	363 Pounds
Total **	317,601 Pounds

Table 5. Polluters reporting the greatest amounts of carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Tennessee River in 1997.

Top dischargers of carcinogens* to the Tennessee River in 1997.

Facility	Facility City	Carcinogens released to water (lbs)
ISP Chemicals Inc.	Calvert City, KY	33,399
Amoco Chemical Co.	Decatur, AL	15,000
Mead Containerboard	Stevenson, AL	5,700
Champion Intl. Courtland Mill	Courtland, AL	4,600
Tenneco Packaging	Counce, TN	1,000

Top dischargers of persistent toxic metals to the Tennessee River in 1997.

Facility	Facility City	Persistent metals to water (lbs)
Champion Intl. Courtland Mill	Courtland, AL	246,000
Amoco Chemical Co.	Decatur, AL	19,900
Chemetals Inc.	New Johnsonville, TN	1,285
Yale Security Inc.	Lenoir City, TN	1,005
ISP Chemicals Inc.	Calvert City, KY	865

Top dischargers of reproductive toxins* to the Tennessee River in 1997.

Facility	Facility City	Reproductive toxins to water (lbs)
Norandal USA Inc. Scottsboro	Scottsboro, AL	250
Westlake Monomers Corp.	Calvert City, KY	106
BF Goodrich Co.	Calvert City, KY	5
3M	Decatur, AL	2

* Carcinogens and reproductive toxins defined by the State of California Proposition 65 and U.S. EPA. See full report for references.

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The Columbia River

Total toxic pollution reported in 1997: 1,859,047 Pounds

Table 1. States discharging the greatest amounts of toxic chemicals to the Columbia River in 1997.

State	Toxic chemical release to water (pounds)	Percent of total release
Washington	1,013,815	54.5
Oregon	845,232	45.5

Table 2. Polluters discharging the greatest amounts of toxic chemicals to the Columbia River in 1997.

Facility	Facility Location	Toxic chemical release to water (pounds)
Boise Cascade Corp.	Saint Helens, OR	715,555
Weyerhaeuser Co.	Longview, WA	274,902
Fort James Camas LLC	Camas, WA	222,750
SEH America Inc.	Vancouver, WA	151,310
Sandvik Special Metals Corp.	Kennewick, WA	119,000
Coastal St. Helens Chemical	Saint Helens, OR	110,870
Longview Fibre Co.	Longview, WA	102,415
Boise Cascade Paper Div.	Wallula, WA	93,766
Unocal Agricultural Prods.	Kennewick, WA	37,475
Lamb-Weston Inc.	Boardman, OR	11,805

Table 3. Toxic chemicals discharged in the greatest amounts to theColumbia River in 1997.

Chemical	Toxic chemical release to water (pounds)
Methanol	952,039
Nitrate compounds	522,765
Formic acid	130,764
Ammonia	86,570
Manganese compounds	57,894
Formaldehyde	40,804
Zinc compounds	14,192
Chlorine	11,820
Acetaldehyde	9,837
Barium compounds	7,362

* Carcinogens and reproductive toxins defined by the State of California Proposition 65 and U.S. EPA. See full report for references.

Table 4. Total carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Columbia River in 1997.

Carcinogens	55,128 Pounds
Persistent Toxic Metals	81,567 Pounds
Reproductive Toxins	0 Pounds
Total **	136,615 Pounds

Table 5. Polluters reporting the greatest amounts of carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Columbia River in 1997.

Top dischargers of carcinogens* to the Columbia River in 1997.

Facility	Facility City	Carcinogens released to water (lbs)
Weyerhaeuser Co.	Longview, WA	42,080
Fort James Camas LLC	Camas, WA	8,600
Boise Cascade Paper Div.	Wallula, WA	2,488
Boise Cascade Corp.	Saint Helens, OR	1,385
SEH America Inc.	Vancouver, WA	410

Top dischargers of persistent toxic metals to the Columbia River in 1997.

Facility	Facility City	Persistent metals to water (lbs)
Weyerhaeuser Co.	Longview, WA	75,354
Boise Cascade Paper Div.	Wallula, WA	2,092
Fort James Camas LLC	Camas, WA	1,900
Boise Cascade Corp.	Saint Helens, OR	1,672
Fort James Operating Co.	Clatskanie, OR	330

Top dischargers of reproductive toxins* to the Columbia River in 1997.

Facility	Facility City	Reproductive toxins to water (lbs)

****** The sum of carcinogens, persistent toxic metals, and reproductive toxins listed in Table 3 may be larger than the total because a chemical may be in more than one category. Chemicals were counted only once for the total in Table 3.

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The Snake River

Total toxic pollution reported in 1997: 1,263,681 Pounds

Table 1. States discharging the greatest amounts of toxic chemicals to the Snake River in 1997.

State	Toxic chemical release to water (pounds)	Percent of total release
Idaho	1,137,081	90
Oregon	126,600	10

Table 2. Polluters discharging the greatest amounts of toxic chemicals to the Snake River in 1997.

Facility	Facility Location	Toxic chemical release to water (pounds)
J. R. Simplot Co. Heyburn	Heyburn, ID	614,159
Mccain Foods USA	Burley, ID	469,601
Ore-Ida Foods Inc.	Ontario, OR	126,600
Potlach Corp. Idaho Pulp &	Lewiston, ID	41,860
Avonmore West Inc.	Twin Falls, ID	8,927
Lamb-Weston Inc.	Twin Falls, ID	2,507
Blount Inc. CCI Ops.	Lewiston, ID	27

Table 3. Toxic chemicals discharged in the greatest amounts to theSnake River in 1997.

Chemical	Toxic chemical release to water (pounds)
Nitrate compounds	1,210,259
Methanol	26,500
Ammonia	11,705
Formaldehyde	5,200
Zinc compounds	3,900
Manganese compounds	3,200
Chloroform	1,200
Acetaldehyde	1,100
Barium compounds	250
Catechol	250

* Carcinogens and reproductive toxins defined by the State of California Proposition 65 and U.S. EPA. See full report for references.

Table 4. Total carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Snake River in 1997.

Carcinogens	7,516 Pounds
Persistent Toxic Metals	7,376 Pounds
Reproductive Toxins	0 Pounds
Total **	14,876 Pounds

Table 5. Polluters reporting the greatest amounts of carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Snake River in 1997.

Top dischargers of carcinogens* to the Snake River in 1997.

Facility	Facility City	Carcinogens released to water (lbs)
Potlach Corp. Idaho Pulp &	Lewiston, ID	7,500
Blount Inc. CCI Ops.	Lewiston, ID	16

Top dischargers of persistent toxic metals to the Snake River in 1997.

Facility	Facility City	Persistent metals to water (lbs)
Potlach Corp. Idaho Pulp &	Lewiston, ID	7,350
Blount Inc. CCI Ops.	Lewiston, ID	26

Top dischargers of reproductive toxins* to the Snake River in 1997.

Facility	Facility City	Reproductive toxins to water (lbs)

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The Big Blue River

Total toxic pollution reported in 1997: 1,219,431 Pounds

Table 1. States discharging the greatest amounts of toxic chemicals to the Big Blue River in 1997.

State	Toxic chemical release to water (pounds)	Percent of total release
Indiana	1,105,078	90.6
Nebraska	113,853	9.3
Missouri	500	0

Table 2. Polluters discharging the greatest amounts of toxic chemicals to the Big Blue River in 1997.

Facility	Facility Location	Toxic chemical release to water (pounds)
Allegheny Ludlum Corp.	New Castle, IN	1,104,810
Agrium U.S. Inc. Homestead	Beatrice, NE	40,309
Friskies Petcare Co. Inc.	Crete, NE	38,925
Farmland Ind. Inc.	Beatrice, NE	24,143
Farmland Foods Inc.	Crete, NE	10,221
GS Techs. Operating Co. GST	Kansas City, MO	500
Petersen Mfg. Co. Inc.	De Witt, NE	255
Textron Automotive Co.	Morristown, IN	250
Freudenberg-Nok Morristown	Morristown, IN	18

Table 3. Toxic chemicals discharged in the greatest amounts to theBig Blue River in 1997.

Chemical	Toxic chemical release to water (pounds)
Nitrate compounds	1,194,059
Ammonia	15,706
Manganese compounds	4,300
Methanol	3,300
Zinc compounds	517
Nickel compounds	505
Nickel	250
Lead compounds	250
Copper compounds	250
Chromium compounds	250

* Carcinogens and reproductive toxins defined by the State of California Proposition 65 and U.S. EPA. See full report for references.

Table 4. Total carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Big Blue River in 1997.

Carcinogens	755 Pounds
Persistent Toxic Metals	6,327 Pounds
Reproductive Toxins	0 Pounds
Total **	6,327 Pounds

Table 5. Polluters reporting the greatest amounts of carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Big Blue River in 1997.

Top dischargers of carcinogens* to the Big Blue River in 1997.

Facility	Facility City	Carcinogens released to water (lbs)
Petersen Mfg. Co. Inc.	De Witt, NE	250
Allegheny Ludlum Corp.	New Castle, IN	250
Textron Automotive Co.	Morristown, IN	250
Farmland Ind. Inc.	Beatrice, NE	5

Top dischargers of persistent toxic metals to the Big Blue River in 1997.

Facility	Facility City	Persistent metals to water (lbs)
Allegheny Ludlum Corp.	New Castle, IN	4,800
Farmland Ind. Inc.	Beatrice, NE	505
GS Techs. Operating Co. GST	Kansas City, MO	500
Petersen Mfg. Co. Inc.	De Witt, NE	255
Textron Automotive Co.	Morristown, IN	250

Top dischargers of reproductive toxins* to the Big Blue River in 1997.

Facility	Facility City	Reproductive toxins to water (lbs)

****** The sum of carcinogens, persistent toxic metals, and reproductive toxins listed in Table 3 may be larger than the total because a chemical may be in more than one category. Chemicals were counted only once for the total in Table 3.

Source: U.S. PIRG. Compiled from U.S. Environmental Protection Agency, Toxics Release Inventory, 1997.

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The Lake Erie

Total toxic pollution reported in 1997: 949,146 Pounds

Table 1. States discharging the greatest amounts of toxic chemicals to the Lake Erie in 1997.

State	Toxic chemical release to water (pounds)	Percent of total release
Ohio	540,864	57
Pennsylvania	401,936	42.3
New York	6,346	0.7

Table 2. Polluters discharging the greatest amounts of toxic chemicals to the Lake Erie in 1997.

Facility	Facility Location	Toxic chemical release to water (pounds)
International Paper Erie Mill	Erie, PA	291,630
Millennium Inorganic	Ashtabula, OH	200,000
Mellennium Inorganic	Ashtabula, OH	140,000
Mallinckrodt Inc. Calsicat	Erie, PA	102,424
GE Co. Ivanhoe Road Plant	Cleveland, OH	89,566
Ford Motor Co. Ohio Assembly	Avon Lake, OH	44,748
BF Goodrich Avon Lake	Avon Lake, OH	15,327
Mtd Prods. Inc.	Cleveland, OH	14,400
Day-Glo Color Corp.	Cleveland, OH	6,993
Erieview Metal Treating Co.	Cleveland, OH	5,641

Table 3. Toxic chemicals discharged in the greatest amounts to theLake Erie in 1997.

Chemical	Toxic chemical release to water (pounds)
Manganese compounds	347,542
Methanol	280,589
Sodium nitrite	85,051
Nitrate compounds	72,665
Ammonia	71,214
Glycol ethers	41,765
tert-Butyl alcohol	8,000
Formaldehyde	6,664
Ethylene glycol	5,601
Chlorine	5,600

* Carcinogens and reproductive toxins defined by the State of California Proposition 65 and U.S. EPA. See full report for references.

Table 4. Total carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Lake Erie in 1997.

Carcinogens	13,939 Pounds
Persistent Toxic Metals	365,481 Pounds
Reproductive Toxins	0 Pounds
Total **	373,677 Pounds

Table 5. Polluters reporting the greatest amounts of carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Lake Erie in 1997.

Top dischargers of carcinogens* to the Lake Erie in 1997.

Facility	Facility City	Carcinogens released to water (lbs)
Day-Glo Color Corp.	Cleveland, OH	6,335
Ferro Corp.	Cleveland, OH	2,203
Mallinckrodt Inc. Calsicat	Erie, PA	1,852
International Paper Erie Mill	Erie, PA	661
Mcgean-Rohco Inc.	Cleveland, OH	463

Top dischargers of persistent toxic metals to the Lake Erie in 1997.

Facility	Facility City	Persistent metals to water (lbs)
Millennium Inorganic	Ashtabula, OH	200,000
Mellennium Inorganic	Ashtabula, OH	140,000
Ferro Corp.	Cleveland, OH	5,502
Mallinckrodt Inc. Calsicat	Erie, PA	3,126
Esab Group Inc.	Ashtabula, OH	2,906

Top dischargers of reproductive toxins* to the Lake Erie in 1997.

Facility	Facility City	Reproductive toxins to water (lbs)
Aerosol Sys.	Macedonia, OH	0

****** The sum of carcinogens, persistent toxic metals, and reproductive toxins listed in Table 3 may be larger than the total because a chemical may be in more than one category. Chemicals were counted only once for the total in Table 3.

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The Wabash River

Total toxic pollution reported in 1997: 732,319 Pounds

Table 1. States discharging the greatest amounts of toxic chemicals to the Wabash River in 1997.

State	Toxic chemical release to water (pounds)	Percent of total release
Indiana	732,319	100

Table 2. Polluters discharging the greatest amounts of toxic chemicals to the Wabash River in 1997.

Facility	Facility Location	Toxic chemical release to water (pounds)
Tippecanoe Labs.	Shadeland, IN	460,515
A. E. Staley Mfg. Co.	Lafayette, IN	99,337
Clinton Labs.	Clinton, IN	78,170
A. E. Staley Mfg. Co.	Lafayette, IN	67,324
Schering-Plough Animal Health	Terre Haute, IN	13,640
Inland Paperboard & Packaging	Newport, IN	6,000
Cummins Engine Co. Inc.	Columbus, IN	2,032
Industrial Plating Inc.	Lafayette, IN	1,422
Jefferson Smurfit Corp.	Wabash, IN	1,000
Impact Forge Inc.	Columbus, IN	635

Table 3. Toxic chemicals discharged in the greatest amounts to theWabash River in 1997.

Chemical	Toxic chemical release to water (pounds)
Nitrate compounds	610,605
Zinc compounds	40,631
N,N-Dimethylformamide	33,005
Ammonia	22,292
Methanol	13,490
tert-Butyl alcohol	5,155
Ethylene glycol	1,917
Glycol ethers	1,010
Chlorine	750
Acetaldehyde	655

Table 4. Total carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Wabash River in 1997.

Carcinogens	34,770 Pounds
Persistent Toxic Metals	42,144 Pounds
Reproductive Toxins	0 Pounds
Total **	76,681 Pounds

Table 5. Polluters reporting the greatest amounts of carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Wabash River in 1997.

Top dischargers of carcinogens* to the Wabash River in 1997.

Facility	Facility City	Carcinogens released to water (lbs)
Clinton Labs.	Clinton, IN	33,250
A. E. Staley Mfg. Co.	Lafayette, IN	655
A. E. Staley Mfg. Co.	Lafayette, IN	377
Tippecanoe Labs.	Shadeland, IN	255
Subaru-Isuzu Automotive Inc.	Lafayette, IN	154

Top dischargers of persistent toxic metals to the Wabash River in 1997.

Facility	Facility City	Persistent metals to water (lbs)
Clinton Labs.	Clinton, IN	39,005
Industrial Plating Inc.	Lafayette, IN	1,422
NTN Driveshaft Inc.	Columbus, IN	522
Subaru-Isuzu Automotive Inc.	Lafayette, IN	330
Golden Casting Corp.	Columbus, IN	281

Top dischargers of reproductive toxins* to the Wabash River in 1997.

Facility	Facility City	Reproductive toxins to water (lbs)

* Carcinogens and reproductive toxins defined by the State of California Proposition 65 and U.S. EPA. See full report for references.

**** The sum of carcinogens, persistent toxic metals, and reproductive toxins listed in Table 3 may be larger than the total because a chemical may be in more than one category. Chemicals were counted only once for the total in Table 3.

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The Missouri River

Total toxic pollution reported in 1997: 622,932 Pounds

Table 1. States discharging the greatest amounts of toxic chemicals to the Missouri River in 1997.

State	Toxic chemical release to water (pounds)	Percent of total release
Nebraska	379,817	61
Iowa	154,521	24.8
Missouri	87,764	14.1
North Dakota	810	0.1

Table 2. Polluters discharging the greatest amounts of toxic chemicals to the Missouri River in 1997.

Facility	Facility Location	Toxic chemical release to water (pounds)
PCS Nitrogen Fertilizer L.P.	Bellevue, NE	370,250
Terra Nitrogen	Sergeant Bluff, IA	103,955
Prime Tanning Corp.	Saint Joseph, MO	67,478
Kind & Knox Gelatine	Sergeant Bluff, IA	50,500
Bayer Corp. Agriculture Div.	Kansas City, MO	16,579
Cargill Corn Milling	Blair, NE	8,372
Hillyard Ind. Inc.	Saint Joseph, MO	2,742
Asarco Inc. Omaha Plant	Omaha, NE	1,190
Amoco Oil Co. Mandan Refinery	Mandan, ND	810
Omnium LLC	Saint Joseph, MO	315

Table 3. Toxic chemicals discharged in the greatest amounts to theMissouri River in 1997.

Chemical	Toxic chemical release to water (pounds)
Nitrate compounds	464,000
Ammonia	142,401
Methanol	8,322
Glycol ethers	2,994
Ethylene glycol	1,068
Formaldehyde	1,006
Phosphoric acid	735
Zinc compounds	550
Lead compounds	493
Arsenic compounds	255

Table 4. Total carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Missouri River in 1997.

Carcinogens	1,337 Pounds
Persistent Toxic Metals	1,783 Pounds
Reproductive Toxins	52 Pounds
Total **	3,018 Pounds

Table 5. Polluters reporting the greatest amounts of carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Missouri River in 1997.

Top dischargers of carcinogens* to the Missouri River in 1997.

Facility	Facility City	Carcinogens released to water (lbs)
Bayer Corp. Agriculture Div.	Kansas City, MO	1,006
Omnium LLC	Saint Joseph, MO	164
Ag Processing Inc.	Saint Joseph, MO	154
Fermenta Animal Health Co.	Elwood, KS	10
Albaugh Inc.	Saint Joseph, MO	3

Top dischargers of persistent toxic metals to the Missouri River in 1997.

Facility	Facility City	Persistent metals to water (lbs)
Asarco Inc. Omaha Plant	Omaha, NE	1,190
PCS Nitrogen Fertilizer L.P.	Bellevue, NE	250
Ag Processing Inc.	Saint Joseph, MO	154
Prime Tanning Corp.	Saint Joseph, MO	152
Friskies Petcare	Saint Joseph, MO	34

Top dischargers of reproductive toxins* to the Missouri River in 1997.

Facility	Facility City	Reproductive toxins to water (lbs)
Bayer Corp. Agriculture Div.	Kansas City, MO	43
Zeneca Inc.	Omaha, NE	5
Omnium LLC	Saint Joseph, MO	4

* Carcinogens and reproductive toxins defined by the State of California Proposition 65 and U.S. EPA. See full report for references.

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The Lake Michigan

Total toxic pollution reported in 1997: 578,019 Pounds

Table 1. States discharging the greatest amounts of toxic chemicals to the Lake Michigan in 1997.

State	Toxic chemical release to water (pounds)	Percent of total release
Wisconsin	427,500	74
Indiana	114,274	19.8
Michigan	34,945	6
Illinois	1,300	0.2

Table 2. Polluters discharging the greatest amounts of toxic chemicals to the Lake Michigan in 1997.

Facility	Facility Location	Toxic chemical release to water (pounds)
Amoco Oil Co. Whiting Refinery	Whiting, IN	111,654
Racine Water Utility	Racine, WI	69,000
Bell Aromatics	Milwaukee, WI	55,368
Red Star Yeast	Milwaukee, WI	54,750
Pfister & Vogel Leather	Milwaukee, WI	44,747
Kohler Co. Brass Div.	Kohler, WI	40,030
Tenneco Packaging Inc.	Filer City, MI	34,945
S. C. Johnson & Son Inc.	Sturtevant, WI	25,067
Milport Ent. Inc.	Milwaukee, WI	23,026
Mccann Barrel Inc.	Milwaukee, WI	22,610

Table 3. Toxic chemicals discharged in the greatest amounts to theLake Michigan in 1997.

Chemical	Toxic chemical release to water (pounds)
Nitrate compounds	194,939
Glycol ethers	98,608
Chlorine	71,050
Ammonia	68,382
Sodium nitrite	55,552
Sulfuric acid	22,610
Methyl tert-butyl ether	11,236
Manganese compounds	10,143
Methanol	9,971
Phosphoric acid	8,889

* Carcinogens and reproductive toxins defined by the State of California Proposition 65 and U.S. EPA. See full report for references.

Table 4. Total carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Lake Michigan in 1997.

Carcinogens	5,188 Pounds
Persistent Toxic Metals	20,932 Pounds
Reproductive Toxins	829 Pounds
Total **	25,241 Pounds

Table 5. Polluters reporting the greatest amounts of carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Lake Michigan in 1997.

Top dischargers of carcinogens* to the Lake Michigan in 1997.

Facility	Facility City	Carcinogens released to water (lbs)
Aldrich Chemical Co. Inc.	Milwaukee, WI	1,114
Borden Chemical	Sheboygan, WI	884
Plastics Eng. Co.	Sheboygan, WI	830
Hercules Inc.	Milwaukee, WI	751
Tenneco Packaging Inc.	Filer City, MI	558

Top dischargers of persistent toxic metals to the Lake Michigan in 1997.

Facility	Facility City	Persistent metals to water (lbs)
Pfister & Vogel Leather	Milwaukee, WI	10,263
Eagle Ottawa Milwaukee	Milwaukee, WI	2,453
Amoco Oil Co. Whiting Refinery	Whiting, IN	2,354
Paul Flagg Leather Co.	Sheboygan, WI	708
Cudahy Tanning Co.	Cudahy, WI	478

Top dischargers of reproductive toxins* to the Lake Michigan in 1997.

Facility	Facility City	Reproductive toxins to water (lbs)
Borden Chemical	Sheboygan, WI	405
Hercules Inc.	Milwaukee, WI	403
Borden Chemical Inc.	Oak Creek, WI	21
Aldrich Chemical Co. Inc.	Sheboygan Falls, WI	0
Hydrite Chemical Co.	Milwaukee, WI	0

****** The sum of carcinogens, persistent toxic metals, and reproductive toxins listed in Table 3 may be larger than the total because a chemical may be in more than one category. Chemicals were counted only once for the total in Table 3.

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The Ouachita River

Total toxic pollution reported in 1997: 572,807 Pounds

Table 1. States discharging the greatest amounts of toxic chemicals to the Ouachita River in 1997.

State	Toxic chemical release to water (pounds)	Percent of total release
Louisiana	325,773	56.9
Arkansas	247,034	43.1

Table 2. Polluters discharging the greatest amounts of toxic chemicals to the Ouachita River in 1997.

Facility	Facility Location	Toxic chemical release to water (pounds)
Angus Chemical Co.	Sterlington, LA	217,062
Georgia-Pacific Paper Ops.	Crossett, AR	173,550
Koch Nitrogen Co.	Sterlington, LA	96,314
International Paper Co.	Camden, AR	41,919
U.S. Vanadium Corp.	Hot Springs, AR	31,195
Riverwood Intl. Corp.	West Monroe, LA	12,397
Celotex Corp.	Camden, AR	250
Arkansas Aluminum Alloys Inc.	Hot Springs, AR	120

Table 3. Toxic chemicals discharged in the greatest amounts to theOuachita River in 1997.

Chemical	Toxic chemical release to water (pounds)
Methanol	206,471
Nitrate compounds	205,676
Ammonia	134,917
Zinc compounds	12,682
Acetaldehyde	4,843
2-Nitropropane	2,789
Nickel	1,459
Manganese compounds	750
Phenol	645
Catechol	438

* Carcinogens and reproductive toxins defined by the State of California Proposition 65 and U.S. EPA. See full report for references.

Table 4. Total carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Ouachita River in 1997.

Carcinogens	9,553 Pounds
Persistent Toxic Metals	15,888 Pounds
Reproductive Toxins	0 Pounds
Total **	23,766 Pounds

Table 5. Polluters reporting the greatest amounts of carcinogens*, persistent toxic metals, and reproductive toxins* discharged to the Ouachita River in 1997.

Top dischargers of carcinogens* to the Ouachita River in 1997.

Facility	Facility City	Carcinogens released to water (lbs)
Angus Chemical Co.	Sterlington, LA	4,313
Georgia-Pacific Paper Ops.	Crossett, AR	2,825
Riverwood Intl. Corp.	West Monroe, LA	1,444
International Paper Co.	Camden, AR	755
U.S. Vanadium Corp.	Hot Springs, AR	195

Top dischargers of persistent toxic metals to the Ouachita River in 1997.

Facility	Facility City	Persistent metals to water (lbs)
Riverwood Intl. Corp.	West Monroe, LA	7,500
International Paper Co.	Camden, AR	4,678
Georgia-Pacific Paper Ops.	Crossett, AR	1,500
Angus Chemical Co.	Sterlington, LA	1,459
Koch Nitrogen Co.	Sterlington, LA	286

Top dischargers of reproductive toxins* to the Ouachita River in 1997.

Facility	Facility City	Reproductive toxins to water (lbs)

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