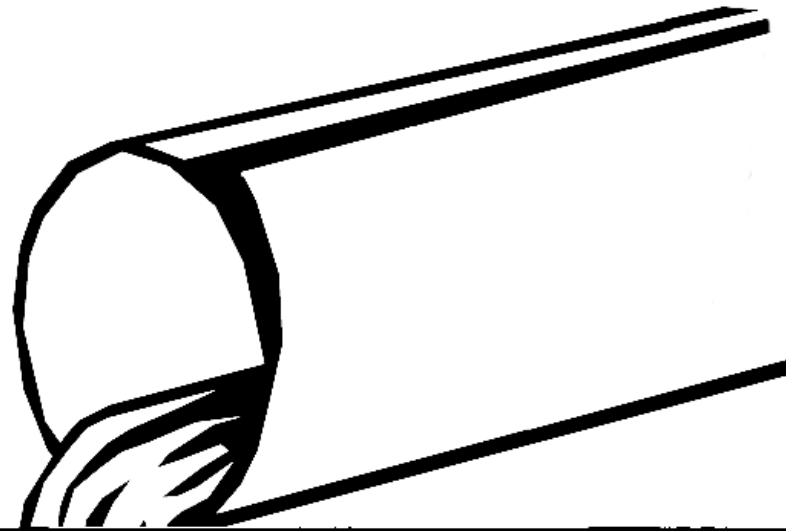


The State PIRGs



Richard Wines  
Carolyn Hartmann

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# Toxic Pollution of Illinois Waters

### Executive Summary

Most Illinois citizens would be surprised to learn that scores of businesses and facilities across the state *legally* dump tons of toxic chemicals into the state's rivers, streams, lakes, and bays. Many of these same polluters flush millions more pounds of toxic substances down the drain to sewage treatment plants that taxpayers pay to operate and maintain. None of the toxic chemicals sent to publicly financed sewage treatment systems are reported as pollution by the EPA, even though a great deal of the toxic load eventually finds its way to Illinois streams and rivers.

The citizens of Illinois have a right to know about any pollution of their water, air or land that may pose a risk to human health or the environment. The goal of *Dishonorable Discharge* is to inform the public about the massive level of toxic pollution of the waters in their state, and point out the need for more comprehensive reporting of toxic chemical use, transport, and pollution, in Illinois and nationwide.

Factories and other industrial facilities dumped more than 26.9 million pounds of toxic substances directly into Illinois' waters between 1990 and 1994, according to a new analysis of the federal Toxics Release Inventory (TRI) (Table 1). Illinois ranked 4th among the states in toxic water pollution reported over those five years. Because of weaknesses and loopholes in federal pollution laws, most, if not all of these toxic discharges are perfectly legal.

As large as they are, these figures substantially underestimate toxic releases to waters and the environment because the TRI requires reporting of only about 340 of the 73,000 chemicals in commerce. The TRI also exempts certain industries from reporting, including utilities, sewage treatment plants, municipal incinerators, and manufacturing facilities with fewer than ten employees.

In addition, over two hundred eighty-five million pounds of toxic materials were flushed to sewage treatment plants in Illinois from 1990 through 1994, first in the nation (Table 1.) EPA estimates that twenty-five percent of all discharges nationwide flow through sewage treatment plants untreated (EPA 1995). Applying this 25 percent estimate to Illinois raises the total amount of toxics dumped to the state's waters to an estimated 98.5 million pounds (Table 1).

The Mississippi River received the greatest amount of toxic water pollution in Illinois from 1990-1994, a total of 16,000,000 pounds, followed by the Rock River, the Illinois River, and Horseshoe Lake (Table 2). The ten most polluted waterways in Illinois received 26,600,000 pounds of toxic pollution between 1990 and 1994, 98.7% percent of the total in the State.

The top three facilities reporting the most toxic pollution of Illinois waters over this period were 3M in Cordova, which dumped 14,800,000 pounds of toxic chemicals, followed by IBP Inc., and BF Goodrich in the towns of Joslin, and Henry, respectively (Table 3). The toxic chemicals dumped in the greatest amounts were ammonia, a total of 20,200,000 pounds, followed by ammonium sulfate solution, and ethylene glycol (Table 4).

USS South Works\* dumped the most carcinogens into Illinois waters, a total of 20,900 pounds, followed by Granite City Steel and BF Goodrich (Table 8). Lake Michigan received the greatest amount of cancer-causing toxic chemicals in Illinois, a total of 21,000 pounds, followed by the Illinois River and Horseshoe Lake (Table 7).

Granite City Steel dumped the greatest amount of persistent toxic metals in Illinois waters, a total of 86,000 pounds, followed by USS South Works\* and Acme Steel Company (Table 8). Horseshoe Lake received the greatest amount of persistent toxic metals, a total of 86,000 pounds, followed by the Lake Michigan and the Mississippi River (Table 7).

Granite City Steel dumped the greatest amount of toxic chemicals that cause reproductive damage or birth defects into Illinois' waters, a total of 66,000 pounds, followed by TTT & T Business Units and Olin Corporation (Table 8). Horseshoe Lake received the greatest amount of toxic chemicals that cause reproductive damage or birth defects, a total of 66,000 pounds, followed by the Illinois River and the Mississippi River (Table 7).

These discharges to Illinois waters include only those wastes released by companies physically located in Illinois. Many waterways receive additional pollution from sources outside of the state. Information on toxic water pollution in other states can be found in EWG's state reports series, and in the national report, *Dishonorable Discharge*.

## Recommendations

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\*This facility reported no discharges in 1994, and may also have reported zero discharges for other years.



# Dishonorable Discharge

Toxic pollution of rivers, lakes, streams, and bays is a serious problem in all 50 states. Twenty five years after the passage of the Clean Water Act, nearly forty (40) percent of America's rivers, lakes, and coastal waters remain unsafe for fishing, swimming or basic recreation (EPA 1996b). In Illinois, over half of the lake acres surveyed (75,000 acres excluding the Great Lakes) had elevated levels of toxic chemicals (EPA 1995b). The pollution that fouls these waterways costs the state's economy millions of dollars in tourism, fishing, and development revenues that otherwise could be earned.

ferred to sewers from industrial facilities pass through treatment and into the waterways that receive wastewater (EPA 1995).

Transfers of toxic chemicals to publicly owned treatment works (POTWs) — otherwise known as sewage treatment plants — were four times greater in 1994 than the amount of toxic chemicals released directly to water that are reported in the entire TRI that year. To estimate the total amounts of toxic substances dumped into Illinois' waters, we used EPA's assumption that 25 percent of all toxic chemicals transferred to POTWs pass-through untreated<sup>3</sup>. Table 1 presents the EWG estimate of toxic chemicals assumed to be discharged by the POTWs in Illinois. Estimates of toxic discharges from POTWs to specific rivers and bodies of water could not be accurately estimated because the sewage treatment plants are not required to report to the TRI.

Assuming a 25 percent flow-through does not permit discharge estimates for individual toxic chemicals that flow through the sewer system into waterways. In reality some chemicals flow through POTW's untouched, while others are removed and held in the sludge, broken down in treatment, or allowed to evaporate into the ambient air as toxic pollutants.

## How Toxic is Toxic?

Some 340 substances were required to be reported to the EPA for the years analyzed in this report. According to the EPA:

“For a chemical or chemical category to remain on or be added to the TRI list, it must be known to cause or reasonably be anticipated to cause one of the following:

- Significant adverse acute health effects at concentration levels that are reasonably likely to exist beyond facility boundaries as a result of continuous, or frequently recurring releases;
- In humans — cancer; teratogenic effects; or serious irreversible reproductive dysfunction, neurologic disorders, heritable genetic mutations, or other chronic health effects;
- A significant adverse effect on the environment because of its toxicity, its toxicity and persistence in the environment, or its toxicity and tendency to bioaccumulate in the environment of sufficient seriousness to warrant reporting under EPCRA section 313” (EPA 1996).

For most of the TRI chemicals, federal regulators and scientists have a disturbingly incomplete understanding of the long term toxic effects on the environment or human health. The vast majority of compounds reported in the TRI are not fully studied, even though they have triggered one of the above criteria.

Toxic discharges and runoff to water are a serious and largely unaddressed environmental and human health problem. Most, if not all of the pollution reported in Dishonorable Discharge is legal. Current pollution control laws like the Clean Water Act (CWA), the Resource Conservation and Recovery Act (RCRA), and the Toxic Substances Control Act (TSCA) do little to move the nation towards reducing the toxic pollution cited in this report. In effect, these laws issue pollution licenses or exemptions from regulations.

One of the more glaring exemptions may be the so-called “domestic sewage exclusion” under RCRA, whereby toxic contaminants sent to sewage treatment plants escape otherwise applicable federal hazardous waste regulations. This accounts for the huge amounts of toxic chemicals that were dumped down the drain by American industry and end up in the nation’s rivers and streams. Another major source of toxic pollution of waters is agricultural pesticides. The runoff of pesticides from agricultural fields is not regulated under any federal law, and is not tabulated by the TRI nor included in this report. About 1.1 billion pounds<sup>4</sup> of pesticides were used in the United States in 1993 alone (Aspelin 1994).

*Dishonorable Discharge* is based on data collected by the U.S. Environmental Protection Agency’s Toxics Release Inventory (TRI) for the reporting years 1990 through 1994, which includes the most recent data available. It includes the releases of only 343 chemicals from about 27,000 manufacturing facilities. The limitations of these data have been described above.

### **Analyzing Discharges by Body of Water**

based on information characterizing the toxic properties of these substances previously published by the EPA, the State of California, and the State of New Jersey, as well as other toxicological literature (Environmental Protection Agency, 1996; California Code of Regulations; New Jersey Department of Health; and Dixon, 1986). EPA's inclusion of known, probable, and possible carcinogens is based on determinations made by the Occupational Safety and Health Administration (OSHA), the National Toxicology Program (NTP), and the International Agency for Research on Cancer (IARC) (EPA 1996). Lists of chemicals included are found in the Appendix.

## Notes

<sup>1</sup>Estimate based on EPA report (National Sediment Contaminant Point Source Inventory: Analysis of Release Data for 1992. Final Draft.) (EPA, 1995) where data from TRI were compared to the Permit Compliance System (PCS) Database and found to represent only about 9%, at most, of discharges reported in PCS. Estimates from the GAO indicate that PCS regulates only 23% of all toxic water pollution (GAO, 1994).

<sup>2</sup>The exact number of chemicals required varies with the year. In 1994, 343 chemicals were reported. EPA has recently expanded the inventory to include about 650. These data, to be reported for 1995, will be available in 1997.

<sup>3</sup>EPA uses this factor since it is unlikely to greatly overestimate or underestimate the exact treatment efficiency (EPA 1995). This number will vary for any specific chemical; however it estimates pass through for chemicals as a whole, and is not applied to specific chemicals in this report.

<sup>4</sup>This value refers to pesticide active ingredients. The total volume of pesticide products, including so-called inert ingredients is far higher.



# Appendix

## Carcinogens

1,1,2,2-Tetrachloroethane

beta-Propiolactone

Michler's ketone

## Persistent Toxic Metals

## Chemicals that Affect Reproduction

*Source: Environmental Working Group. Compiled from California Proposition 65, EPA's TRI Public Data Release, New Jersey Department of Health, Hazardous Substances Fact Sheets, and Toxic Responses of the Reproductive System (Dixon 1986).*

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