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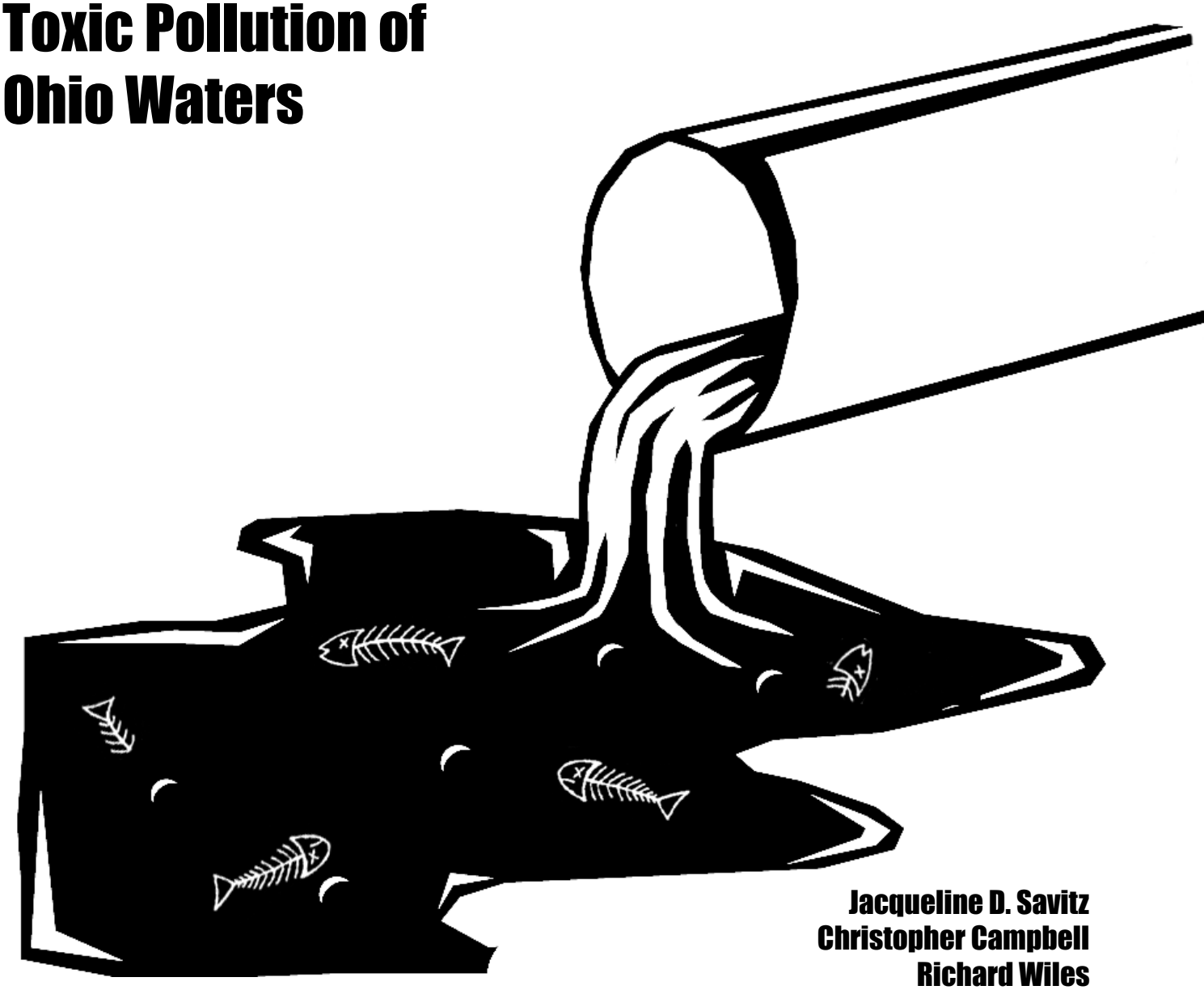
ENVIRONMENTAL WORKING GROUP™

Dishonorable Discharge

Toxic Pollution of Ohio Waters



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Acknowledgments

We are grateful to Molly Evans who designed and produced the report and to Allison Daly who coordinated its release. Thanks to Ken Cook and Mark Childress for their editing and advice, and to Dale Klaus of U.S. PIRG who assisted with research.

Dishonorable Discharge was made possible by grants from The Joyce Foundation, the W. Alton Jones Foundation, The Pew Charitable Trusts, and Working Assets Funding Service. A computer equipment grant from the Apple Computer Corporation made our analysis possible. The opinions expressed in this report are those of the authors and do not necessarily reflect the views of The Pew Charitable Trusts or our other supporters listed above.

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Dishonorable Discharge

Toxic Pollution of Ohio Waters

Executive Summary

Most Ohio 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 Ohio streams and rivers.

The citizens of Ohio 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 Ohio and nationwide.

Factories and other industrial facilities dumped more than 22.8 million pounds of toxic substances directly into Ohio's waters between 1990 and 1994, according to a new analysis of the federal Toxics Release Inventory (TRI) (Table 1). Ohio ranked 7th 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, almost 103 million pounds of toxic materials were flushed to sewage treatment plants in Ohio from 1990 through 1994, 6th 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 Ohio raises the total amount of toxics dumped to the state's waters to an estimated 48.4 million pounds (Table 1).

The Ohio River received the greatest amount of toxic water pollution in Ohio from 1990-1994, a total of 16,000,000 pounds, followed by the Cuyahoga River, the Black River, and the Scioto River (Table 2). The ten most polluted waterways in Ohio received 21,400,000 pounds of toxic pollution between 1990 and 1994, 94.0% percent of the total in the State.

The top three facilities reporting the most toxic pollution of Ohio's waters over this period were Elkem Metals Company in Marietta, which dumped 13,800,000 pounds of

toxic chemicals, followed by LTV Steel Company Inc., and Monsanto Company in the towns of Cleveland, and Addyston, respectively (Table 3). The toxic chemicals dumped in the greatest amounts were ammonia, a total of 18,300,000 pounds, followed by ethylene glycol, and methanol (Table 4).

Monsanto Company dumped the most carcinogens into Ohio's waters, a total of 106,000 pounds, followed by AK Steel Corporation and Du Pont (Table 8). The Ohio River received the greatest amount of cancer-causing toxic chemicals in Ohio, a total of 116,000 pounds, followed by Dick's Creek and the Scioto River (Table 7).

Elkem Metals Company dumped the greatest amount of persistent toxic metals in Ohio's waters, a total of 540,000 pounds, followed by AK Steel Corporation and USS/ Kobe Steel Company (Table 8). The Ohio River received the greatest amount of persistent toxic metals, a total of 610,000 pounds, followed by Dick's Creek and the Black River (Table 7).

Armco Inc. Dover Operations dumped the greatest amount of toxic chemicals that cause reproductive damage or birth defects into Ohio's waters, a total of 45,000 pounds, followed by Hobart Brothers Company and Ford Motor Company (Table 8). The Tuscarawas River received the greatest amount of toxic chemicals that cause reproductive damage or birth defects, a total of 49,000 pounds, followed by Morgan's Ditch and the Schoewe Ditch (Table 7).

These discharges to Ohio's waters include only those wastes released by companies physically located in Ohio. 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

Americans have a right to know about any use, transport, or release of toxic substance in their communities that might pose a risk to human health or the environment. Required reporting under the TRI provides only a small portion of this information. Much more complete reporting is needed. Americans also have a right to know about toxic chemicals in the products they buy that may pose a risk to them and their children.

Full accounting of the use of toxic materials reveals many low cost opportunities for pollution prevention. In New Jersey, state officials estimate that every dollar spent on such materials accounting practices generates five to eight dollars in increased efficiency (GAO 1994). Without materials accounting industry will miss many opportunities for substantial low cost reductions in pollution, and the public and policy makers will be unable formulate strategies that most effectively reduce exposure to toxic substances in the environment and consumer products.

We recommend:

- Timely implementation of the EPA's proposed expansion of industries and facilities required to report toxic releases under the TRI.

- Expansion of TRI reporting requirements to include full materials accounting for any facility or industry that uses or releases a toxic substance that may pose a risk to human health and the environment.

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 Ohio, over 13,000 acres of lakes surveyed 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 on or near these waters were they not so polluted (EPA 1996b).

Dishonorable Discharge Underestimates Toxic Pollution

The Toxics Release Inventory (TRI) provides a rough estimate of a small portion of the toxic chemicals that flow into America's waters. The toxic discharges reported in this study are based on TRI reported toxic releases to waterways and so-called "transfers" of toxics to publicly owned treatment works (POTWs) — the term of art that industry and the EPA use when an industrial facility dumps toxic chemicals into the local sewer.

The figures reported in *Dishonorable Discharge* dramatically underestimate the total amounts of toxic compounds that have been discharged, dumped, or made their way into rivers and lakes across the country over the past five years.

About 90[1] percent of all toxic discharges coming out of pipes into water (so-called point source discharges) are not reported to the TRI. This is because the TRI requires reporting on only about 343[2] of some 73,000 chemicals used in commerce, and because the TRI exempts many polluters (utilities, certain industries, and those with fewer than ten employees) from reporting requirements (EPA 1996).

About half of all toxics that pollute rivers come from surface runoff and air deposition, as opposed to pipes. Comprehensive accounting of this "nonpoint source" pollution is not available for all rivers on a national basis.

Taking all of the limitations of the existing information into account, Environmental Working Group believes that an accurate estimate of the total load of toxic pollution in many rivers and lakes over the past five years might be 20 times greater than the amounts reported here.

Hiding Toxics in the Sewer

The EPA does not include so-called "transfers" of toxic chemicals to sewer systems as an official "release" of a toxic chemical into the environment (EPA 1996). At the same time, the EPA estimates that 25 percent of all toxic chemicals transferred 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 Ohio's waters, we used EPA's assumption that 25 percent of all toxic chemicals transferred to POTWs pass-through untreated[3]. Table 1 presents the EWG estimate of toxic chemicals assumed to be discharged by the POTWs in Ohio. 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 also 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[4] 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

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 it was possible to link them. For purposes of this analysis, toxic release data for major rivers themselves are tabulated separately, not summed as 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 joins the Mississippi just above St. Louis. Small streams receiving large quantity discharges (such as Gravelly Run in Virginia and Clear Creek in Colorado) were reported individually, just as they are recorded in the TRI. State-level reports only include discharges to a given river from facilities that are physically located in this state, not discharges from facilities located in other states upstream.

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 more than 250 million pounds in 1994, compared to 66 million pounds of direct discharges to waters reported in that same year. While the EPA does not count these transfers as environmental releases in the TRI, the Agency estimates that an average of 25 percent of these transfers flow through sewer systems into receiving waters (EPA 1995).

To better illustrate the amount of toxic chemicals that actually make it into the nation's waters each year, we assumed that on average 25 percent of the toxic chemicals transferred to POTWs (a.k.a. sewers) by a reporting facility, ultimately pass through the sewage treatment plant untreated and in most cases are discharged to receiving waters.

Toxic chemical releases through POTWs were estimated statewide, but were not attributed to specific rivers at the state level due to the difficulty of verifying the receiving waters. Environmental Working Group will attempt to identify receiving waters more precisely future reports. All other analyses including facility discharges and top chemicals reflect direct discharges only, and not POTW release estimations.

Total discharges of persistent toxic metals, known or possible carcinogens, and chemicals known to cause reproductive effects, were calculated for specific rivers

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

[1]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).

[2]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.

[3]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.

[4]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
1,1-Dimethylhydrazine (UDMH) (alar trans. prod.)
1,2-Dibromo-3-chloropropane (DBCP)
1,3-Butadiene
1,3-Dichloropropylene
1,3-Propane sultone
1,4-Dioxane
1-Amino-2-methylanthraquinone
1-Naphthylamine
2,4,6-Trichlorophenol
2,4-Diaminoanisole
2,4-Diaminoanisole sulfate
2,4-Diaminotoluene
2,4-Dinitrotoluene
2-Acetylaminofluorene
2-Aminoanthraquinone
2-Methylaziridine (Propyleneimine)
2-Naphthylamine
2-Nitropropane
3,3'-Dichlorobenzidine
3,3'-Dimethoxybenzidine (ortho-Dianisidine)
3,3'-Dimethylbenzidine
4,4'-Diaminodiphenyl ether (4,4'-Oxydianiline)
4,4'-Methylene bis(2-chloroaniline)
4,4'-Methylene bis(N,N-dimethyl) benzenamine
4,4'-Methylenedianiline
4,4'-Thiodianiline
4-Aminobiphenyl (4-aminodiphenyl)
4-Dimethylaminoazobenzene
4-Nitrobiphenyl
5-Nitro-o-anisidine
Acetaldehyde
Acetamide
Acrylamide
Acrylonitrile
Allyl chloride
Aniline
Arsenic
Arsenic compounds
Asbestos
Auramine
Benzene
Benzidine [and its salts]
Benzotrichloride
Benzyl chloride
Beryllium and beryllium compounds
Beryllium compounds
beta-Propiolactone
Bis (2-chloroethyl) ether
Bis(chloromethyl) ether
Bromodichloromethane
Bromoform
Cadmium
Cadmium compounds
Captan
Carbon tetrachloride
Chlordane
Chloroethane (Ethyl chloride)
Chloroform
Chloromethyl methyl ether
Chlorophenols
Chlorothalonil
Chromium
Cupferron
D&C Red No. 19
DDVP (Dichlorvos)
Di -(2-ethylhexyl)phthalate
Dichloromethane (Methylene chloride)
Diepoxybutane
Diethyl sulfate
Dimethyl sulfate
Dimethylcarbamoyl chloride
Direct Black 38
Direct Blue 6
Direct Brown 95
Epichlorohydrin
Ethyl acrylate
Ethylene dibromide
Ethylene dichloride (1,2-Dichloroethane)
Ethylene oxide
Ethylene thiourea (EBDC trans prod.)
Ethyleneimine
Formaldehyde
Hexachlorobenzene
Hexachloroethane
Hexamethylphosphoramide
Hydrazine
Hydrazine sulfate
Hydrazobenzene (1,2-Diphenylhydrazine)
Isosafrole
Lead
Lead compounds
Lindane
Methyl iodide
Michler's ketone
Mustard Gas
N-Nitroso-N-ethylurea
N-Nitroso-N-methylurea
N-Nitrosodi-n-butylamine
N-Nitrosodi-n-propylamine
N-Nitrosodiethylamine
N-Nitrosodimethylamine
N-Nitrosodiphenylamine
N-Nitrosomethylvinylamine
N-Nitrosomorpholine
N-Nitrosonornicotine
N-Nitrosopiperidine
Nickel
Nickel compounds
Nitrilotriacetic acid
Nitrofen
Nitrogen mustard (Mechlorethamine)
ortho-Anisidine
ortho-Anisidine hydrochloride
ortho-Toluidine
ortho-Toluidine hydrochloride
p-Aminoazobenzene
p-Cresidine
p-Dichlorobenzene
p-Nitrosodiphenylamine
Pentachlorophenol
Polybrominated biphenyls
Polychlorinated biphenyls
Propylene oxide
Saccharin
Safrole
Styrene
Styrene oxide
Tetrachloroethylene (Perchloroethylene)
Thioacetamide
Thiourea
Toluene-2,4-diisocyanate
Toluene-2,6-diisocyanate
Toxaphene (Polychorinated camphenes)
Trichloroethylene
Tris(2,3-dibromopropyl)phosphate
Urethane (Ethyl carbamate)
Vinyl bromide
Vinyl chloride
Vinyl trichloride (1,1,2-Trichloroethane)

Persistent Toxic Metals

Antimony & Antimony Compounds
Arsenic & Arsenic Compounds
Barium & Barium Compounds
Beryllium & Beryllium Compounds
Cadmium & Cadmium Compounds
Chromium & Chromium Compounds
Cobalt & Cobalt Compounds
Copper & Copper Compounds
Lead & Lead Compounds
Manganese & Manganese Compounds
Mercury & Mercury Compounds
Nickel & Nickel Compounds
Selenium & Selenium Compound
Silver & Silver Compounds
Thallium & Thallium Compounds
Zinc & Zinc Compounds

Chemicals that Affect Reproduction

1,2-Dibromo-3-chloropropane
Cadmium
Carbon disulfide
Diethylhexyl phthalate
o-Dinitrobenzene
m-Dinitrobenzene
p-Dinitrobenzene
Ethylene glycol monoethyl ether
Ethylene glycol monomethyl ether
Ethylene oxide
Hexamethylphosphoramide
Lead
Styrene
Toulene
Trichloroethylene
Xylene(mixed isomers)
o-xylene
m-xylene
p-xylene
Di-n-butyl phthalate
Glycol ethers
Mercury Compounds
Mercury
Benzene
Aluminum
Arsenic
Nickel
Lindane
Vinyl Chloride

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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ENVIRONMENTAL WORKING GROUP™

Dishonorable Discharge

Ohio

Toxic pollution of Ohio waters (1990-1994)

Table 1. Total reported toxic pollution of Ohio waters (1990-1994).

Direct Water Discharges	22,787,460 Pounds
Estimated Sewer Discharges‡	25,660,824 Pounds
Total Discharges to Waters	**48,448,284 Pounds**

Table 2. Ohio waters receiving the greatest amounts of toxic pollution (1990-1994).

River or Water Body	Toxic chemical release to waterbody (pounds)
Ohio River	16,030,122
Cuyahoga River	2,427,663
Black River	1,002,433
Scioto River	361,346
Great Miami River	332,962
Ottawa River	318,005
Mahoning River	246,734
Paint Creek	236,340
Maumee River	233,896
Tuscarawas River	226,799

Table 3. Polluters reporting the greatest amounts of toxic chemicals discharged to Ohio waters (1990-1994).

Facility	City	Toxic chemical release to waters (pounds)
Elkem Metals Co.	Marietta	13,845,443
LTV Steel Co. Inc.	Cleveland	2,365,660
Monsanto Co.	Addyston	1,219,557
USS/Kobe Steel Co.	Lorain	983,600
AK Steel Corp.	Middletown	469,501
Wheeling-Pittsburgh Steel	Mingo Junction	342,022
Du Pont	Circleville	333,763
Mead Fine Paper Div.	Chillicothe	236,075
Ferro Corp.	Cleveland	225,501
GM Powertrain Defiance	Defiance	217,433

Table 4. Toxic chemicals discharged in the greatest amounts to Ohio waters (1990-1994).

Chemical	Toxic chemical release to waters (pounds)
Ammonia	18,338,192
Ethylene glycol	1,153,996
Methanol	741,556
Manganese compounds	665,878
Chlorine	335,019
Zinc compounds	248,253
Ammonium nitrate (solution)	201,862
Formaldehyde	131,810
Diethanolamine	119,287
Ammonium sulfate (solution)	87,307

Table 5. Polluters reporting the greatest amounts of toxic chemicals discharged to Ohio sewage treatment facilities (1990-1994).

Facility	City	Toxic chemical release to sewers (pounds)
Cincinnati Specialties Inc.	Cincinnati	17,319,964
Phthalchem Inc.	Cincinnati	15,437,800
Hilton Davis Co.	Cincinnati	13,691,688
Henkel Corp.	Cincinnati	5,320,290
Procter & Gamble	Cincinnati	4,727,346
Abitec Corp.	Columbus	4,544,523
General Electric Co.	Cleveland	3,750,461
Research Organics Inc.	Cleveland	3,685,660
AK Steel Corp.	Middletown	2,782,506
Morton Intl. Inc.	Cincinnati	2,752,377

‡ Total discharges of toxic chemicals to sewer systems in Ohio was 102,643,299 in 1990-94. EPA estimates that 25% of all toxic discharges to sewers pass through sewage treatment plants to receiving waters (EPA 1995).

* This polluter did not report any discharges to water in 1994. See Table 9 for year to year pollution figures.

Source: Environmental Working Group. Compiled from U.S. Environmental Protection Agency, Toxics Release Inventory 1990-1994.

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ENVIRONMENTAL WORKING GROUP™

Dishonorable Discharge

Ohio

Toxic pollution of Ohio waters (1990-1994).
Carcinogens, persistent toxic metals, and reproductive toxins

Table 6. Total carcinogens, persistent toxic metals, and reproductive toxins** discharged into Ohio waters (1990-1994).**

Carcinogens	321,098 Pounds
Persistent Toxic Metals	1,188,110 Pounds
Reproductive Toxins	119,897 Pounds
Total (see note)	**1,462,062 Pounds**

Note: The sum of carcinogens, persistent toxic metals, and reproductive toxins listed in Table 6 may be larger than the total because a chemical may be in one or more categories, i.e. a chemical may be both a carcinogen and a reproductive toxin. Chemicals were counted only once for the total in Table 6.

Table 7. Ohio waters receiving the greatest amounts of carcinogens, persistent toxic metals, and reproductive toxins** (1990-1994).**

Waters receiving the greatest amounts of carcinogenic chemicals in Ohio (1990-1994).**

River or Water Body	Carcinogens** released to waters (lbs.)
Ohio River	115,950
Dick's Creek	47,052
Scioto River	29,359
Great Miami River	24,766
Tuscarawas River	21,979

Waters receiving the greatest amounts of persistent toxic metals in Ohio (1990-1994).

River or Water Body	Persistent toxic metals released to waters (lbs.)
Ohio River	610,189
Dick's Creek	116,570
Black River	82,827
Tuscarawas River	64,541
Mahoning River	47,386

Waters receiving the greatest amounts of reproductive toxins in Ohio (1990-1994).**

River or Water Body	Reproductive toxins** released to waters (lbs.)
Tuscarawas River	48,836
Morgan's Ditch	14,700
Schoewe Ditch	12,050
Ohio River	8,327
Dick's Creek	5,577

Table 8. Polluters reporting the greatest amounts of carcinogens, persistent toxic metals, and reproductive toxins** discharged to Ohio waters (1990-1994).**

Top dischargers of carcinogenic chemicals to Ohio waters (1990-1994).**

Facility	City	Carcinogens** released to waters (lbs.)
Monsanto Co.	Addyston	105,601
AK Steel Corp.	Middletown	49,887
Du Pont	Circleville	25,395
Crystal Tissue Co.	Middletown	20,077
Union Camp Corp.	Dover	8,780

Top dischargers of persistent toxic metals to Ohio waters (1990-1994).

Facility	City	Persistent toxic metals released to waters (lbs.)
Elkem Metals Co.	Marietta	540,300
AK Steel Corp.	Middletown	133,390
USS/Kobe Steel Co.	Lorain	64,600
Wheeling-Pittsburgh Steel	Mingo Junction	52,020
Coil Coating Co.*	Warren	41,609

Top dischargers of reproductive toxins to Ohio waters (1990-1994).**

Facility	City	Reproductive toxins** released to waters (lbs.)
Armco Inc. Dover Operations	Dover	44,673
Hobart Brothers Co.	Troy	14,700
Ford Motor Co.	Sandusky	12,050
AK Steel Corp.	Middletown	5,582
Shell Chemical Co.	Belpre	5,021

* This polluter did not report any discharges to water in 1994. See Table 9 for year to year pollution figures.

** Carcinogens and reproductive toxins defined by the State of California Proposition 65, EPA's TRI Public Data Release and other literature. See full report for references.

Source: Environmental Working Group. Compiled from U.S. Environmental Protection Agency, Toxics Release Inventory 1990-1994.

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Dishonorable Discharge

The Ohio River in Ohio

Total toxic pollution reported (1990-1994): 16,030,122 Pounds

Table 1. Polluters discharging the greatest amounts of toxic chemicals to the Ohio River in Ohio (1990-1994).

Facility	City	Toxic chemical release to water (pounds)
Elkem Metals Co.	Marietta	13,845,443
Monsanto Co.	Addyston	1,219,557
Wheeling-Pittsburgh Steel	Mingo Junction	341,841
Shell Chemical Co.	Belpre	182,776
Vigoro Ind. Inc.	North Bend	138,910
Wheeling-Pittsburgh Steel	Steubenville	129,040
South Point Ethanol	South Point	121,586
New Boston Coke Corp.	New Boston	25,085
Wheeling-Pittsburgh Steel	Martins Ferry	10,690
Allied-Signal Inc.	Ironton	

Table 2. Toxic chemicals discharged in the greatest amounts to the Ohio River in Ohio (1990-1994).

Chemical	Toxic chemical release to waterbody (pounds)
Ammonia	14,435,209
Methanol	557,405
Manganese compounds	538,140
Chlorine	137,263
Ammonium nitrate (solution)	126,400
Formaldehyde	104,500
Zinc compounds	37,028
Chromium compounds	33,911
Cyanide compounds	31,132
Styrene	5,740

‡ 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 one or more categories. Chemicals were counted only once for the total in Table 3.

* This polluter did not report any discharges to water in 1994. See Table 9 for year to year pollution figures.

** Carcinogens and reproductive toxins defined by the State of California Proposition 65, EPA's TRI Public Data Release and other literature. See full report for references.

Table 3. Total carcinogens, persistent toxic metals, and reproductive toxins** discharged to the Ohio River in Ohio (1990-1994).**

Carcinogens	115,950 Pounds
Persistent Toxic Metals	610,189 Pounds
Reproductive Toxins	8,327 Pounds
Total‡	**726,508 Pounds**

Table 4. Polluters reporting the greatest amounts of carcinogens, persistent toxic metals, and reproductive toxins** discharged to the Ohio River in Ohio (1990-1994).**

Top dischargers of carcinogens to the Ohio River in Ohio (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)
Monsanto Co.	Addyston	105,601
Shell Chemical Co.	Belpre	8,166
Allied-Signal Inc.	Ironton	1,045
South Point Ethanol	South Point	1,005
Aristech Chemical Corp.	Haverhill	123

Top dischargers of persistent toxic metals to the Ohio River in Ohio (1990-1994).

Facility	City	Persistent toxic metals released to water (lbs)
Elkem Metals Co.	Marietta	540,300
Wheeling-Pittsburgh Steel	Mingo Junction	51,941
Wheeling-Pittsburgh Steel	Martins Ferry	10,690
Wheeling-Pittsburgh Steel	Yorkville	2,140
Eveready Battery Co. Inc.	Marietta	1,850

Top dischargers of reproductive toxins to the Ohio River in Ohio (1990-1994).**

Facility	City	Reproductive toxins** released to water (lbs)
Shell Chemical Co.	Belpre	5,021
Allied-Signal Inc.	Ironton	2,095
South Point Ethanol	South Point	1,005
Monsanto Co.	Addyston	206

Source: Environmental Working Group. Compiled from U.S. Environmental Protection Agency, Toxics Release Inventory 1990-1994.

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Dishonorable Discharge

The Cuyahoga River in Ohio

Total toxic pollution reported (1990-1994): 2,427,663 Pounds

Table 1. Polluters discharging the greatest amounts of toxic chemicals to the Cuyahoga River in Ohio (1990-1994).

Facility	City	Toxic chemical release to water (pounds)
LTV Steel Co. Inc.	Cleveland	2,365,660
Zaclon Inc.	Cleveland	56,347
Johnson Rubber Co.	Middlefield	1,851
Engelhard Corp.	Cleveland	1,799
American Steel & Wire Corp.	Cuyahoga Heights	835
Lucerne Prods. Inc.*	Hudson	505
Alcoa	Cleveland	404
Struktol Co. Of America	Stow	250

Table 2. Toxic chemicals discharged in the greatest amounts to the Cuyahoga River in Ohio (1990-1994).

Chemical	Toxic chemical release to waterbody (pounds)
Ammonia	2,370,758
Phenol	30,745
Zinc compounds	14,734
Chromium compounds	3,300
Nickel compounds	2,810
Copper compounds	1,058
Zinc (fume or dust)	1,000
Lead compounds	760
Manganese compounds	320
Hydrogen fluoride	305

‡ 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 one or more categories. Chemicals were counted only once for the total in Table 3.

* This polluter did not report any discharges to water in 1994. See Table 9 for year to year pollution figures.

** Carcinogens and reproductive toxins defined by the State of California Proposition 65, EPA's TRI Public Data Release and other literature. See full report for references.

Table 3. Total carcinogens, persistent toxic metals, and reproductive toxins** discharged to the Cuyahoga River in Ohio (1990-1994).**

Carcinogens	3,985 Pounds
Persistent Toxic Metals	25,245 Pounds
Reproductive Toxins	138 Pounds
Total‡	**25,345 Pounds**

Table 4. Polluters reporting the greatest amounts of carcinogens, persistent toxic metals, and reproductive toxins** discharged to the Cuyahoga River in Ohio (1990-1994).**

Top dischargers of carcinogens to the Cuyahoga River in Ohio (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)
Engelhard Corp.	Cleveland	1,708
LTV Steel Co. Inc.	Cleveland	1,102
Zaclon Inc.	Cleveland	1,015

Top dischargers of persistent toxic metals to the Cuyahoga River in Ohio (1990-1994).

Facility	City	Persistent toxic metals released to water (lbs)
LTV Steel Co. Inc.	Cleveland	14,260
Zaclon Inc.	Cleveland	6,254
Engelhard Corp.	Cleveland	1,779
Johnson Rubber Co.	Middlefield	1,760
American Steel & Wire Corp.	Cuyahoga Heights	835

Top dischargers of reproductive toxins to the Cuyahoga River in Ohio (1990-1994).**

Facility	City	Reproductive toxins** released to water (lbs)

Source: Environmental Working Group. Compiled from U.S. Environmental Protection Agency, Toxics Release Inventory 1990-1994.

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Dishonorable Discharge

The Black River in Ohio

Total toxic pollution reported (1990-1994): 1,002,433 Pounds

Table 1. Polluters discharging the greatest amounts of toxic chemicals to the Black River in Ohio (1990-1994).

Facility	City	Toxic chemical release to water (pounds)
USS/Kobe Steel Co.	Lorain	983,600
Western Reserve Mfg. Co.	Lorain	15,342
Engelhard Corp.	Elyria	3,176
Moen Inc.	Elyria	230

Table 2. Toxic chemicals discharged in the greatest amounts to the Black River in Ohio (1990-1994).

Chemical	Toxic chemical release to waterbody (pounds)
Ethylene glycol	800,000
Diethanolamine	119,000
Manganese compounds	53,288
Copper	8,090
Lead compounds	7,012
Zinc (fume or dust)	6,625
Chromium compounds	4,900
Lead	556
Molybdenum trioxide	500
Copper compounds	415

‡ 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 one or more categories. Chemicals were counted only once for the total in Table 3.

* This polluter did not report any discharges to water in 1994. See Table 9 for year to year pollution figures.

** Carcinogens and reproductive toxins defined by the State of California Proposition 65, EPA's TRI Public Data Release and other literature. See full report for references.

Table 3. Total carcinogens, persistent toxic metals, and reproductive toxins** discharged to the Black River in Ohio (1990-1994).**

Carcinogens	8,160 Pounds
Persistent Toxic Metals	82,827 Pounds
Reproductive Toxins	896 Pounds
Total‡	**82,907 Pounds**

Table 4. Polluters reporting the greatest amounts of carcinogens, persistent toxic metals, and reproductive toxins** discharged to the Black River in Ohio (1990-1994).**

Top dischargers of carcinogens to the Black River in Ohio (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)
USS/Kobe Steel Co.	Lorain	7,000
Western Reserve Mfg. Co.	Lorain	784
Engelhard Corp.	Elyria	331

Top dischargers of persistent toxic metals to the Black River in Ohio (1990-1994).

Facility	City	Persistent toxic metals released to water (lbs)
USS/Kobe Steel Co.	Lorain	64,600
Western Reserve Mfg. Co.	Lorain	15,342
Engelhard Corp.	Elyria	2,650
Moen Inc.	Elyria	230

Top dischargers of reproductive toxins to the Black River in Ohio (1990-1994).**

Facility	City	Reproductive toxins** released to water (lbs)
Western Reserve Mfg. Co.	Lorain	771

Source: Environmental Working Group. Compiled from U.S. Environmental Protection Agency, Toxics Release Inventory 1990-1994.

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Dishonorable Discharge

The Scioto River in Ohio

Total toxic pollution reported (1990-1994): 361,346 Pounds

Table 1. Polluters discharging the greatest amounts of toxic chemicals to the Scioto River in Ohio (1990-1994).

Facility	City	Toxic chemical release to water (pounds)
Du Pont	Circleville	333,763
Jefferson Smurfit Corp.	Circleville	11,471
Oi-Neg TV Prods. Inc.	Columbus	6,829
U.S. DOE Portsmouth	Piketon	3,507
BMI Refractories*	South Webster	2,265
Eaton Corp.	Marion	1,505
Thomson Consumer	Circleville	1,370
U.S. Enrichment Corp.	Piketon	589

Table 2. Toxic chemicals discharged in the greatest amounts to the Scioto River in Ohio (1990-1994).

Chemical	Toxic chemical release to waterbody (pounds)
Ethylene glycol	305,886
1,4-Dioxane	21,890
Ammonia	9,571
Hydrogen fluoride	3,300
Lead compounds	2,947
Chromium compounds	2,210
Methanol	2,188
Biphenyl	1,854
Antimony compounds	1,511
Zinc compounds	1,386

‡ 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 one or more categories. Chemicals were counted only once for the total in Table 3.

* This polluter did not report any discharges to water in 1994. See Table 9 for year to year pollution figures.

** Carcinogens and reproductive toxins defined by the State of California Proposition 65, EPA's TRI Public Data Release and other literature. See full report for references.

Table 3. Total carcinogens, persistent toxic metals, and reproductive toxins** discharged to the Scioto River in Ohio (1990-1994).**

Carcinogens	29,359 Pounds
Persistent Toxic Metals	10,074 Pounds
Reproductive Toxins	267 Pounds
Total‡	**35,469 Pounds**

Table 4. Polluters reporting the greatest amounts of carcinogens, persistent toxic metals, and reproductive toxins** discharged to the Scioto River in Ohio (1990-1994).**

Top dischargers of carcinogens to the Scioto River in Ohio (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)
Du Pont	Circleville	25,395
Oi-Neg TV Prods. Inc.	Columbus	3,000
Eaton Corp.	Marion	755
Thomson Consumer	Circleville	177

Top dischargers of persistent toxic metals to the Scioto River in Ohio (1990-1994).

Facility	City	Persistent toxic metals released to water (lbs)
Oi-Neg TV Prods. Inc.	Columbus	3,529
U.S. DOE Portsmouth	Piketon	3,187
Eaton Corp.	Marion	1,505
Thomson Consumer	Circleville	1,370
U.S. Enrichment Corp.	Piketon	399

Top dischargers of reproductive toxins to the Scioto River in Ohio (1990-1994).**

Facility	City	Reproductive toxins** released to water (lbs)
Oi-Neg TV Prods. Inc.	Columbus	230

Source: Environmental Working Group. Compiled from U.S. Environmental Protection Agency, Toxics Release Inventory 1990-1994.

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Dishonorable Discharge

The Great Miami River in Ohio

Total toxic pollution reported (1990-1994): 332,962 Pounds

Table 1. Polluters discharging the greatest amounts of toxic chemicals to the Great Miami River in Ohio (1990-1994).

Facility	City	Toxic chemical release to water (pounds)
AK Steel Corp.	Middletown	282,069
Crystal Tissue Co.	Middletown	20,077
Appleton Papers Inc.*	West Carrollton	11,740
Miller Brewing Co.	Trenton	8,711
U.S. DOE Fernald	Fernald	4,250
Delphi Harrison Thermal Sys.	Moraine	1,874
Du Pont*	North Bend	1,505
Albright & Wilson Co.	Fernald	1,000
Appleton Papers Inc.	West Carrollton	818
Bay West Paper Corp.	Middletown	

Table 2. Toxic chemicals discharged in the greatest amounts to the Great Miami River in Ohio (1990-1994).

Chemical	Toxic chemical release to waterbody (pounds)
Ammonia	252,031
Formaldehyde	20,077
Hydrochloric acid	15,000
Zinc compounds	14,201
Ethylene glycol	8,000
Methanol	4,250
Manganese compounds	3,581
Cyanide compounds	2,510
Phenol	2,250
Lead compounds	2,043

‡ 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 one or more categories. Chemicals were counted only once for the total in Table 3.

* This polluter did not report any discharges to water in 1994. See Table 9 for year to year pollution figures.

** Carcinogens and reproductive toxins defined by the State of California Proposition 65, EPA's TRI Public Data Release and other literature. See full report for references.

Table 3. Total carcinogens, persistent toxic metals, and reproductive toxins** discharged to the Great Miami River in Ohio (1990-1994).**

Carcinogens	24,766 Pounds
Persistent Toxic Metals	22,292 Pounds
Reproductive Toxins	479 Pounds
Total‡	**44,627 Pounds**

Table 4. Polluters reporting the greatest amounts of carcinogens, persistent toxic metals, and reproductive toxins** discharged to the Great Miami River in Ohio (1990-1994).**

Top dischargers of carcinogens to the Great Miami River in Ohio (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)
Crystal Tissue Co.	Middletown	20,077
AK Steel Corp.	Middletown	2,835
Appleton Papers Inc.*	West Carrollton	1,800

Top dischargers of persistent toxic metals to the Great Miami River in Ohio (1990-1994).

Facility	City	Persistent toxic metals released to water (lbs)
AK Steel Corp.	Middletown	16,820
Appleton Papers Inc.*	West Carrollton	3,620
Delphi Harrison Thermal Sys.	Moraine	1,555
General Motors Corp.	Dayton	125
Delphi Chassis Sys.	Vandalia	106

Top dischargers of reproductive toxins to the Great Miami River in Ohio (1990-1994).**

Facility	City	Reproductive toxins** released to water (lbs)
AK Steel Corp.	Middletown	255
Bay West Paper Corp.	Middletown	191

Source: Environmental Working Group. Compiled from U.S. Environmental Protection Agency, Toxics Release Inventory 1990-1994.

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Dishonorable Discharge

The Ottawa River in Ohio

Total toxic pollution reported (1990-1994): 318,005 Pounds

Table 1. Polluters discharging the greatest amounts of toxic chemicals to the Ottawa River in Ohio (1990-1994).

Facility	City	Toxic chemical release to water (pounds)
BP Chemicals Inc.*	Lima	201,670
Arcadian Ohio L.p.	Lima	82,270
BP Oil Co.	Lima	32,635
Textileather Corp.	Toledo	1,410

Table 2. Toxic chemicals discharged in the greatest amounts to the Ottawa River in Ohio (1990-1994).

Chemical	Toxic chemical release to waterbody (pounds)
Ammonia	213,200
Methanol	71,005
Hydroquinone	14,650
Ethylene glycol	12,100
Chlorine	1,750
Chromium compounds	1,520
Methyl ethyl ketone	760
Hydrogen cyanide	750
Chromium	560
Acetonitrile	500

‡ 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 one or more categories. Chemicals were counted only once for the total in Table 3.

* This polluter did not report any discharges to water in 1994. See Table 9 for year to year pollution figures.

** Carcinogens and reproductive toxins defined by the State of California Proposition 65, EPA's TRI Public Data Release and other literature. See full report for references.

Table 3. Total carcinogens, persistent toxic metals, and reproductive toxins** discharged to the Ottawa River in Ohio (1990-1994).**

Carcinogens	1,145 Pounds
Persistent Toxic Metals	2,445 Pounds
Reproductive Toxins	285 Pounds
Total‡	**3,260 Pounds**

Table 4. Polluters reporting the greatest amounts of carcinogens, persistent toxic metals, and reproductive toxins** discharged to the Ottawa River in Ohio (1990-1994).**

Top dischargers of carcinogens to the Ottawa River in Ohio (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)
BP Oil Co.	Lima	570
BP Chemicals Inc.*	Lima	505

Top dischargers of persistent toxic metals to the Ottawa River in Ohio (1990-1994).

Facility	City	Persistent toxic metals released to water (lbs)
BP Oil Co.	Lima	1,310
BP Chemicals Inc.*	Lima	750
Textileather Corp.	Toledo	380

Top dischargers of reproductive toxins to the Ottawa River in Ohio (1990-1994).**

Facility	City	Reproductive toxins** released to water (lbs)
Textileather Corp.	Toledo	270

Source: Environmental Working Group. Compiled from U.S. Environmental Protection Agency, Toxics Release Inventory 1990-1994.

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Dishonorable Discharge

The Mahoning River in Ohio

Total toxic pollution reported (1990-1994): 246,734 Pounds

Table 1. Polluters discharging the greatest amounts of toxic chemicals to the Mahoning River in Ohio (1990-1994).

Facility	City	Toxic chemical release to water (pounds)
LTV Steel Co. Inc.	Warren	145,309
WCI Steel Inc.	Warren	63,208
Thomas Steel Strip Corp.	Warren	17,143
Copperweld Steel Co.	Warren	15,950
Coil Coating Co.*	Warren	3,640
Whitacre-Greer Fireproofing	Alliance	1,000
North Star Steel*	Youngstown	270
Walker Williams Lumber Co.	Youngstown	209

Table 2. Toxic chemicals discharged in the greatest amounts to the Mahoning River in Ohio (1990-1994).

Chemical	Toxic chemical release to waterbody (pounds)
Ammonia	183,502
Zinc compounds	19,520
Ammonium sulfate (solution)	11,000
Nickel compounds	9,566
Manganese	6,017
Copper compounds	4,324
Manganese compounds	3,199
Phenol	2,596
Cyanide compounds	1,952
Lead compounds	1,614

‡ 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 one or more categories. Chemicals were counted only once for the total in Table 3.

* This polluter did not report any discharges to water in 1994. See Table 9 for year to year pollution figures.

** Carcinogens and reproductive toxins defined by the State of California Proposition 65, EPA's TRI Public Data Release and other literature. See full report for references.

Table 3. Total carcinogens, persistent toxic metals, and reproductive toxins** discharged to the Mahoning River in Ohio (1990-1994).**

Carcinogens	12,759 Pounds
Persistent Toxic Metals	47,386 Pounds
Reproductive Toxins	1,207 Pounds
Total‡	**47,398 Pounds**

Table 4. Polluters reporting the greatest amounts of carcinogens, persistent toxic metals, and reproductive toxins** discharged to the Mahoning River in Ohio (1990-1994).**

Top dischargers of carcinogens to the Mahoning River in Ohio (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)
Thomas Steel Strip Corp.	Warren	7,783
Copperweld Steel Co.	Warren	3,973
WCI Steel Inc.	Warren	859
Walker Williams Lumber Co.	Youngstown	125

Top dischargers of persistent toxic metals to the Mahoning River in Ohio (1990-1994).

Facility	City	Persistent toxic metals released to water (lbs)
Copperweld Steel Co.	Warren	15,950
Thomas Steel Strip Corp.	Warren	15,255
WCI Steel Inc.	Warren	11,332
Coil Coating Co.*	Warren	3,370
Whitacre-Greer Fireproofing	Alliance	1,000

Top dischargers of reproductive toxins to the Mahoning River in Ohio (1990-1994).**

Facility	City	Reproductive toxins** released to water (lbs)
Copperweld Steel Co.	Warren	1,195

Source: Environmental Working Group. Compiled from U.S. Environmental Protection Agency, Toxics Release Inventory 1990-1994.

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Dishonorable Discharge

Paint Creek in Ohio

Total toxic pollution reported (1990-1994): 236,340 Pounds

Table 1. Polluters discharging the greatest amounts of toxic chemicals to Paint Creek in Ohio (1990-1994).

Facility	City	Toxic chemical release to water (pounds)
Mead Fine Paper Div.	Chillicothe	236,075
Countrymark Co-op.*	Washington Court	265

Table 2. Toxic chemicals discharged in the greatest amounts to Paint Creek in Ohio (1990-1994).

Chemical	Toxic chemical release to waterbody (pounds)
Ammonia	103,500
Methanol	103,460
Ethylene glycol	10,000
Chloroform	6,920
Zinc compounds	5,540
Acetone	5,230
Acetaldehyde	900
Catechol	445
Manganese compounds	260

‡ 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 one or more categories. Chemicals were counted only once for the total in Table 3.

* This polluter did not report any discharges to water in 1994. See Table 9 for year to year pollution figures.

** Carcinogens and reproductive toxins defined by the State of California Proposition 65, EPA's TRI Public Data Release and other literature. See full report for references.

Table 3. Total carcinogens, persistent toxic metals, and reproductive toxins** discharged to Paint Creek in Ohio (1990-1994).**

Carcinogens	7,880 Pounds
Persistent Toxic Metals	5,805 Pounds
Reproductive Toxins	0 Pounds
Total‡	**13,685 Pounds**

Table 4. Polluters reporting the greatest amounts of carcinogens, persistent toxic metals, and reproductive toxins** discharged to Paint Creek in Ohio (1990-1994).**

Top dischargers of carcinogens to Paint Creek in Ohio (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)
Mead Fine Paper Div.	Chillicothe	7,880

Top dischargers of persistent toxic metals to Paint Creek in Ohio (1990-1994).

Facility	City	Persistent toxic metals released to water (lbs)
Mead Fine Paper Div.	Chillicothe	5,540
Countrymark Co-op.*	Washington Court	265

Top dischargers of reproductive toxins to Paint Creek in Ohio (1990-1994).**

Facility	City	Reproductive toxins** released to water (lbs)

Source: Environmental Working Group. Compiled from U.S. Environmental Protection Agency, Toxics Release Inventory 1990-1994.

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Dishonorable Discharge

The Maumee River in Ohio

Total toxic pollution reported (1990-1994): 233,896 Pounds

Table 1. Polluters discharging the greatest amounts of toxic chemicals to the Maumee River in Ohio (1990-1994).

Facility	City	Toxic chemical release to water (pounds)
GM Powertrain Defiance	Defiance	217,433
Campbell Soup Co.	Napoleon	11,538
Du Pont*	Toledo	4,537
Clevite Elastomers*	Napoleon	250

Table 2. Toxic chemicals discharged in the greatest amounts to the Maumee River in Ohio (1990-1994).

Chemical	Toxic chemical release to waterbody (pounds)
Ammonium sulfate (solution)	76,307
Ammonium nitrate (solution)	63,851
Ammonia	62,600
Zinc compounds	15,068
Manganese compounds	6,260
Formaldehyde	3,401
n-Butyl alcohol	1,110
Methanol	977
Glycol ethers	710
Lead compounds	672

‡ 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 one or more categories. Chemicals were counted only once for the total in Table 3.

* This polluter did not report any discharges to water in 1994. See Table 9 for year to year pollution figures.

** Carcinogens and reproductive toxins defined by the State of California Proposition 65, EPA's TRI Public Data Release and other literature. See full report for references.

Table 3. Total carcinogens, persistent toxic metals, and reproductive toxins** discharged to the Maumee River in Ohio (1990-1994).**

Carcinogens	4,417 Pounds
Persistent Toxic Metals	23,282 Pounds
Reproductive Toxins	2,004 Pounds
Total‡	**28,371 Pounds**

Table 4. Polluters reporting the greatest amounts of carcinogens, persistent toxic metals, and reproductive toxins** discharged to the Maumee River in Ohio (1990-1994).**

Top dischargers of carcinogens to the Maumee River in Ohio (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)
GM Powertrain Defiance	Defiance	4,307
Du Pont*	Toledo	110

Top dischargers of persistent toxic metals to the Maumee River in Ohio (1990-1994).

Facility	City	Persistent toxic metals released to water (lbs)
Campbell Soup Co.	Napoleon	11,538
GM Powertrain Defiance	Defiance	10,779
Du Pont*	Toledo	640
Clevite Elastomers*	Napoleon	250

Top dischargers of reproductive toxins to the Maumee River in Ohio (1990-1994).**

Facility	City	Reproductive toxins** released to water (lbs)
Du Pont*	Toledo	1,425
GM Powertrain Defiance	Defiance	579

Source: Environmental Working Group. Compiled from U.S. Environmental Protection Agency, Toxics Release Inventory 1990-1994.

The Environmental Working Group is a non-profit environmental research organization based in Washington, D.C.
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ENVIRONMENTAL WORKING GROUP™

Dishonorable Discharge

The Tuscarawas River in Ohio

Total toxic pollution reported (1990-1994): 226,799 Pounds

Table 1. Polluters discharging the greatest amounts of toxic chemicals to the Tuscarawas River in Ohio (1990-1994).

Facility	City	Toxic chemical release to water (pounds)
Washington Steel Corp.	Massillon	66,035
Union Camp Corp.	Dover	64,843
Armco Inc. Dover Operations	Dover	45,385
Republic Engineered Steels	Massillon	41,520
Stone Container Corp.	Coshocton	8,116
Amerimark Building Prods.*	Gnadenhutten	409
Goodyear Tire & Rubber Co.	Greensburg	250
Gencorp Polymer Prods.	Newcomerstown	209

Table 2. Toxic chemicals discharged in the greatest amounts to the Tuscarawas River in Ohio (1990-1994).

Chemical	Toxic chemical release to waterbody (pounds)
Ammonia	111,174
Aluminum (fume or dust)	44,609
Manganese compounds	33,000
Nickel compounds	15,710
Manganese	3,460
Nickel	3,250
Chromium compounds	2,849
Cyclohexane	2,271
Copper compounds	2,170
Lead compounds	2,161

‡ 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 one or more categories. Chemicals were counted only once for the total in Table 3.

* This polluter did not report any discharges to water in 1994. See Table 9 for year to year pollution figures.

** Carcinogens and reproductive toxins defined by the State of California Proposition 65, EPA's TRI Public Data Release and other literature. See full report for references.

Table 3. Total carcinogens, persistent toxic metals, and reproductive toxins** discharged to the Tuscarawas River in Ohio (1990-1994).**

Carcinogens	21,979 Pounds
Persistent Toxic Metals	64,541 Pounds
Reproductive Toxins	48,836 Pounds
Total‡	**110,063 Pounds**

Table 4. Polluters reporting the greatest amounts of carcinogens, persistent toxic metals, and reproductive toxins** discharged to the Tuscarawas River in Ohio (1990-1994).**

Top dischargers of carcinogens to the Tuscarawas River in Ohio (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)
Union Camp Corp.	Dover	8,780
Republic Engineered Steels	Massillon	6,990
Washington Steel Corp.	Massillon	6,055

Top dischargers of persistent toxic metals to the Tuscarawas River in Ohio (1990-1994).

Facility	City	Persistent toxic metals released to water (lbs)
Republic Engineered Steels	Massillon	41,520
Washington Steel Corp.	Massillon	12,585
Union Camp Corp.	Dover	8,780
Armco Inc. Dover Operations	Dover	776
Amerimark Building Prods.*	Gnadenhutten	389

Top dischargers of reproductive toxins to the Tuscarawas River in Ohio (1990-1994).**

Facility	City	Reproductive toxins** released to water (lbs)
Armco Inc. Dover Operations	Dover	44,673
Washington Steel Corp.	Massillon	3,250
Union Camp Corp.	Dover	913

Source: Environmental Working Group. Compiled from U.S. Environmental Protection Agency, Toxics Release Inventory 1990-1994.

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