

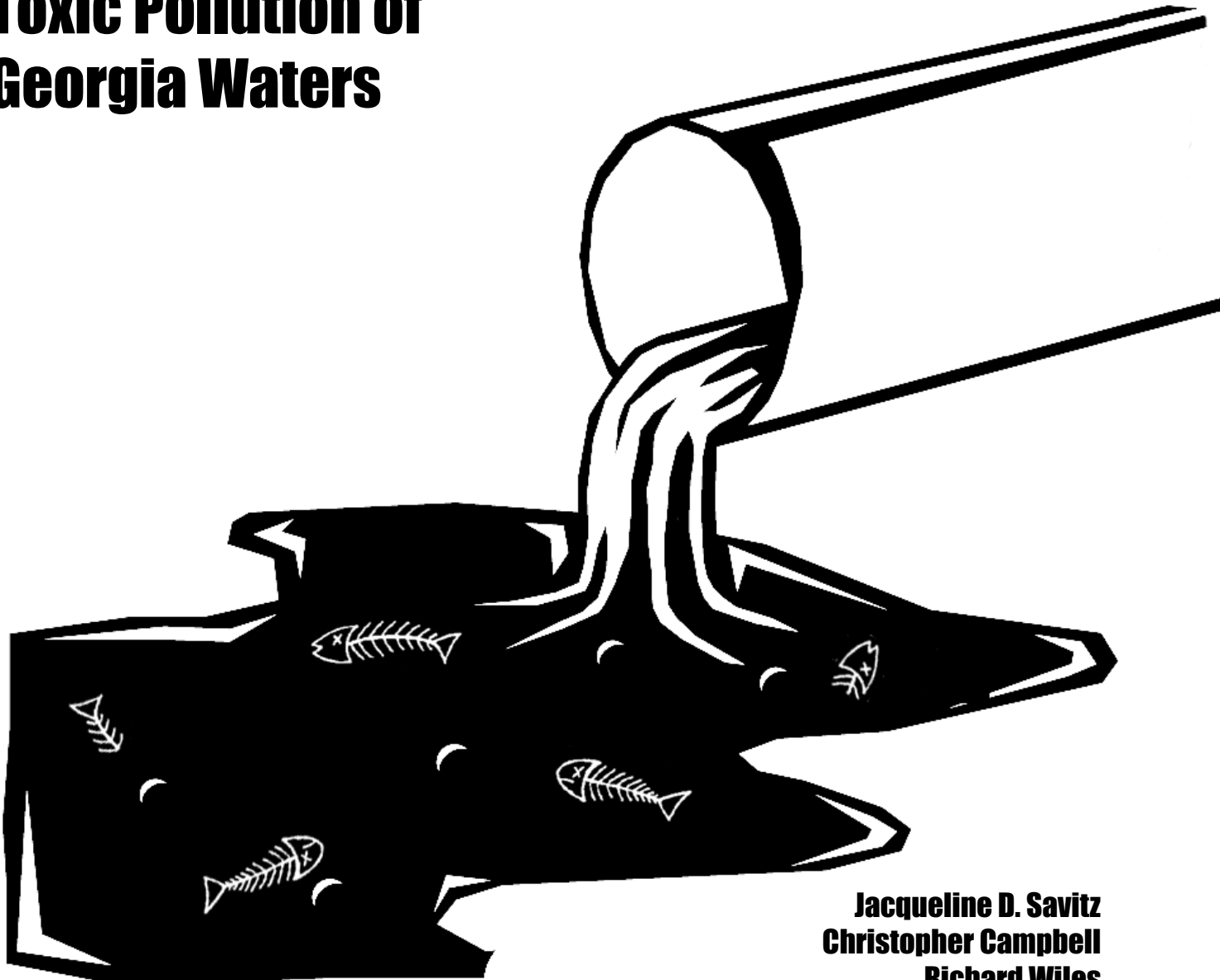


The State PIRGs



# **Dishonorable Discharge**

## **Toxic Pollution of Georgia Waters**



**Jacqueline D. Savitz  
Christopher Campbell  
Richard Wiles  
Carolyn Hartmann**

*Dishonorable Discharge* was released in cooperation with the following organizations. Environmental Working Group is solely responsible for the analyses and information contained in this report.

### National Organizations

Citizen Action and  
affiliated state organizations  
Clean Water Action  
and affiliated state organizations  
Environmental Information Center  
River Network  
Sierra Club Legal Defense Fund  
U.S. Public Interest Research Group  
and the State PIRGs

### Regional, State and River Organizations

Alabama State River Coalition  
Alaska Center for the Environment  
Chesapeake Bay Foundation  
Clean Water Fund of North Carolina  
Colorado Rivers Alliance  
Dakota Resource Council  
Delaware Nature Society  
Dog River Clearwater Revival  
Florida Environmental Alliance  
Friends of the Los Angeles River  
Friends of the River of Virginia  
Friends of the Tennessee River  
Georgia Environmental Organization  
Great Lakes United  
Hudson River Sloop Clearwater  
Idaho Conservation League  
Idaho Rivers United  
Kansas Natural Resource Council  
Louisiana Environmental Action Network  
Mid-South Peace and Justice Center  
Mississippi River Basin Alliance  
New York Rivers United  
Northern Plains Resource Council  
Office of the River Keeper Tennessee  
Oregon Environmental Council  
Pennsylvania Assoc. of Watersheds  
and Rivers  
People for Puget Sound  
Rivers Alliance of Connecticut  
Rivers Unlimited Ohio  
Save Our Rivers North Carolina  
Save San Francisco Bay  
Sierra Club Kentucky Chapter  
Sierra Club South Dakota Chapter  
Tennessee Environmental Council  
Tongass Conservation Society  
Utah Rivers Conservation Council  
Washington Toxics Coalition  
West Virginia Rivers Coalition

### 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.

Copyright © September 1996 by the Environmental Working Group/The Tides Center. All rights reserved. Manufactured in the United States of America, printed on recycled paper.

### U.S. PIRG and The State PIRGs

The United States Public Interest Research Organization (U.S. PIRG) is the national lobbying office for the state PIRGs. PIRGs are nonpartisan, nonprofit watchdog organizations, working for environmental, consumer, and government reform in over thirty states.

Gene Karpinski, Executive Director

### Environmental Working Group

The Environmental Working Group is a nonprofit environmental research organization based in Washington, D.C. The Environmental Working Group is a project of the Tides Center, a California Public Benefit Corporation based in San Francisco that provides administrative and program support services to nonprofit programs and projects.

Kenneth A. Cook, President  
Mark B. Childress, Vice President for Policy  
Richard Wiles, Vice President for Research

### To order a copy

Copies of this report may be ordered for \$15.00 each (plus 6% sales tax or \$0.90 for Washington, D.C. residents) and \$3.00 for postage and handling. Payment must accompany all orders. Please make checks payable to:

Environmental Working Group  
1718 Connecticut Avenue, N.W. Suite 600  
Washington, D.C. 20009  
(202) 667-6982 (phone) (202) 232-2592 (fax) info@ewg.org (e-mail)

### World Wide Web

Environmental Working Group publications are available on the World Wide Web at: <<http://www.ewg.org>>

# Toxic Pollution of Georgia Waters

### Executive Summary

Most Georgia 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 Georgia streams and rivers.

The citizens of Georgia 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 Georgia and nationwide.

Factories and other industrial facilities dumped more than 19.2 million pounds of toxic substances directly into Georgia's waters between 1990 and 1994, according to a new analysis of the federal Toxics Release Inventory (TRI) (Table 1). Georgia ranked 8th 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, more than twenty-eight million pounds of toxic materials were flushed to sewage treatment plants in Georgia from 1990 through 1994, 16th 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 Georgia raises the total amount of toxics dumped to the state's waters to an estimated 26.3 million pounds (Table 1).

The Savannah River received the greatest amount of toxic water pollution in Georgia from 1990-1994, a total of 13,900,000 pounds, followed by Little Attapulgus Creek, the Withlacoochee River, and the Chattahoochee River (Table 2). The ten most polluted waterways in Georgia received 18,500,000 pounds of toxic pollution between 1990 and 1994, 96.3% percent of the total in the State.

The top three facilities reporting the most toxic pollution of Georgia's waters over this period were Arcadian Corporation in Port Wentworth, which dumped 4,670,000

pounds of toxic chemicals, followed by Arcadian Fertilizer L. P. in Augusta, and Union Camp Corporation in Savannah (Table 3). The toxic chemicals dumped in the greatest amounts were ammonium nitrate solution, a total of 8,600,000 pounds, followed by ammonia, and methanol (Table 4).

Merck & Company Inc. dumped the most carcinogens into Georgia's waters, a total of 73,300 pounds, followed by Gilman Paper Company and Kemira Pigments Inc. (Table 8). The Flint River received the greatest amount of cancer-causing toxic chemicals in Georgia, a total of 74,000 pounds, followed by the North River and the Savannah River (Table 7).

Kemira Pigments Inc. dumped the greatest amount of persistent toxic metals in Georgia's waters, a total of 491,000 pounds, followed by Georgia-Pacific Corporation and Chemical Products Corporation (Table 8). The Savannah River received the greatest amount of persistent toxic metals, a total of 526,000 pounds, followed by the Turtle River and the Etowah River (Table 7).

King Finishing Company dumped the greatest amount of toxic chemicals that cause reproductive damage or birth defects into Georgia's waters, a total of 96,000 pounds, followed by Southeast Paper Manufacturing Company and Rabun Apparel Inc.\* (Table 8). The Ogeechee River received the greatest amount of toxic chemicals that cause reproductive damage or birth defects, a total of 96,000 pounds, followed by the Oconee River and the Little Tennessee River (Table 7).

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

---

\*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 Georgia, over 93,000 acres of lakes surveyed and 1,600 miles of rivers 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<sup>1</sup> 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<sup>2</sup> 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 Georgia’s 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 Georgia. 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**

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

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

## 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  
 Toluene  
 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).

# References

Aspelin, A.L. 1994. Pesticides Industry Sales and Usage: 1992 and 1993 Market Estimates. EPA, Washington, DC.

California Code of Regulations, Title 22. Chapter 3. Safe Drinking Water and Toxic Enforcement Act of 1986. Social Security, S 12000, Chemicals Known to the State to Cause Cancer or Reproductive Toxicity.

Dixon, R. L. 1986. Toxic Responses of the Reproductive System. In: Casarett and Doull's Toxicology: The Basic Science of Poisons, Third Edition. C.D. Klaassen, M.O. Amdur, and J. Doull, Eds. Macmillan Publishing Company, New York. pp. 432-477.

Environmental Protection Agency. 1995. National Sediment Contaminant Point Source Inventory: Analysis of Release Data for 1992. Final Draft, March 22, 1995.

Environmental Protection Agency. 1995b. National Water Quality Inventory: 1994 Report to Congress. EPA841-R-95-005. 497pp.

Environmental Protection Agency. 1996. 1994 Toxics Release Inventory, Public Data Release. Office of Pollution Prevention and Toxics. EPA 745-R-96-002.

Environmental Protection Agency. 1996b. Liquid Assets: A Summertime Perspective on the Importance of Clean Water to the Nation's Economy. 800-R-96-002.

Federal Register Notice, (June 27, 1996) 40 CFR Part 372. Addition of Facilities in Certain Industry Sectors; Toxic Chemical Release Reporting; Community Right-to-Know; Proposed Rule. pp.33588-33618.

New Jersey Department of Health. Right to Know Program. Hazardous Substances Fact Sheets.

Office of Technology Assessment, 1989. Statement before the Subcommittee on Superfund, Ocean and Water Protection, Committee on Environment and Public Works, United States Senate, May 10, 1989. (As cited in Federal Register Notice, (June 27, 1996) 40 CFR Part 372. Addition of Facilities in Certain Industry Sectors; Toxic Chemical Release Reporting; Community Right-to-Know; Proposed Rule. pp.33588-33618.)

United States Department of the Interior, Fish and Wildlife Service and U.S. Department of Commerce, Bureau of the Census. 1993. 1991 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation. U.S. Government Printing Office, Washington, DC.

United States Government Accounting Office. 1991. EPA's Toxics Release Inventory is Useful but Can Be Improved. GAO/RCED-91-121. 89pp.

United States Government Accounting Office. 1994. Poor quality assurance and limited pollutant coverage undermine EPA's Control of Toxic Substances. GAO/PEMD-94-9. 87pp.

# Georgia

## Toxic pollution of Georgia waters (1990-1994)

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

Direct Water Discharges	19,165,620 Pounds
Estimated Sewer Discharges‡	7,132,990 Pounds
<b>Total Discharges to Waters</b>	<b>26,298,610 Pounds</b>

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

River or Water Body	Toxic chemical release to waterbody (pounds)
Savannah River	13,939,285
Little Attapulgus Creek	1,431,183
Withlacoochee River	737,794
Chattahoochee River	641,523
Flint River	535,393
Turtle River	482,283
Oconee River	289,138
North River	147,592
Altamaha River	143,930
Ogeechee River	106,603

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

Facility	City	Toxic chemical release to waters (pounds)
Arcadian Corp.	Port Wentworth	4,669,369
Arcadian Fertilizer L. P.	Augusta	4,346,080
Union Camp Corp.	Savannah	1,718,904
Engelhard Corp. Attapulus	Attapulgus	1,431,183
Engelhard Corp.	Savannah	1,253,767
DSM Chemicals N.A. Inc.	Augusta	983,874
Packaging Corp. Of America	Clyattville	737,794
Kemira Pigments Inc.	Savannah	551,530
Georgia-Pacific Corp.	Brunswick	482,283
Camp Creek WPC Plant	College Park	455,863

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

Chemical	Toxic chemical release to waters (pounds)
Ammonium nitrate (solution)	8,602,291
Ammonia	3,922,912
Methanol	2,337,908
Ammonium sulfate (solution)	1,433,566
Chlorine	596,322
Acetone	524,627
Chromium compounds	523,961
Zinc compounds	428,565
Glycol ethers	162,967
Chloroform	98,010

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

Facility	City	Toxic chemical release to sewers (pounds)
Riverwood Intl. USA Inc.	Macon	5,319,106
Nutrasweet Co.	Augusta	4,160,000
Amoco Polymers	Augusta	3,131,340
Shaw Ind. Inc.	Dalton	1,749,550
Shaw Ind. Inc.	Dalton	1,047,900
Ruetgers-Nease Corp.	Augusta	1,009,150
Chem-tech Finishers Inc.	Dalton	901,818
Colormaster	Calhoun	848,145
Shaw Ind. Inc.	Cartersville	841,000
Mount Vernon Mills Inc.	Trion	732,908

‡ Total discharges of toxic chemicals to sewer systems in Georgia was 28,531,963 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.

# Georgia

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

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

Carcinogens	238,023 Pounds
Persistent Toxic Metals	1,069,313 Pounds
Reproductive Toxins	179,602 Pounds
<b>Total (see note)</b>	<b>1,434,580 Pounds</b>

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

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

River or Water Body	Carcinogens** released to waters (lbs.)
Flint River	73,710
North River	55,900
Savannah River	50,202
Altamaha River	23,720
Turtle River	16,063

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

River or Water Body	Persistent toxic metals released to waters (lbs.)
Savannah River	525,503
Turtle River	436,000
Etowah River	50,331
Ocmulgee River	8,833
Lake Tara	6,760

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

River or Water Body	Reproductive toxins** released to waters (lbs.)
Ogeechee River	96,000
Oconee River	44,942
Little Tennessee River	12,948
Lake Tara	8,000
Savannah River	6,034

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

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

Facility	City	Carcinogens** released to waters (lbs.)
Merck & Co. Inc.	Albany	73,280
Gilman Paper Co.	Saint Marys	55,900
Kemira Pigments Inc.	Savannah	38,200
Rayonier Speciality Pulp	Jesup	23,720
Georgia-Pacific Corp.	Brunswick	16,063

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

Facility	City	Persistent toxic metals released to waters (lbs.)
Kemira Pigments Inc.	Savannah	491,000
Georgia-Pacific Corp.	Brunswick	436,000
Chemical Prods. Corp.	Cartersville	50,331
Union Camp Corp.	Savannah	25,000
Amercord Inc.	Lumber City	8,833

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

Facility	City	Reproductive toxins** released to waters (lbs.)
King Finishing Co.	Dover	96,000
Southeast Paper Mfg. Co.	Dublin	43,628
Rabun Apparel Inc.*	Rabun Gap	12,948
Nalco Chemical Co.*	Jonesboro	10,000
Union Camp Corp.	Savannah	5,130

\* 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.

The Environmental Working Group is a non-profit environmental research organization based in Washington, D.C.  
Phone: (202) 667-6982 • Fax: (202) 232-2592 • Email: [info@ewg.org](mailto:info@ewg.org) • Web: <http://www.ewg.org>

# The Savannah River in Georgia

Total toxic pollution reported (1990-1994): 13,939,285 Pounds

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

Facility	City	Toxic chemical release to water (pounds)
Arcadian Corp.	Port Wentworth	4,669,369
Arcadian Fertilizer L. P.	Augusta	4,346,080
Union Camp Corp.	Savannah	1,718,904
Engelhard Corp.	Savannah	1,253,767
DSM Chemicals N.A. Inc.	Augusta	983,874
Kemira Pigments Inc.	Savannah	551,530
Stone Savannah River Pulp	Port Wentworth	322,610
Federal Paper Board Co. Inc.	Augusta	78,407
Citgo Asphalt Refining Co.*	Savannah	5,370
Fort Howard Corp.	Rincon	

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

Chemical	Toxic chemical release to waterbody (pounds)
Ammonium nitrate (solution)	6,964,506
Ammonia	3,148,744
Methanol	1,987,548
Ammonium sulfate (solution)	826,596
Zinc compounds	405,889
Acetone	361,320
Chromium compounds	77,114
Catechol	41,934
Nickel compounds	38,200
Sulfuric acid	28,943

‡ 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 Savannah River in Georgia (1990-1994).**

Carcinogens	50,202 Pounds
Persistent Toxic Metals	525,503 Pounds
Reproductive Toxins	6,034 Pounds
<b>Total‡</b>	<b>543,192 Pounds</b>

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

**Top dischargers of carcinogens\*\* to the Savannah River in Georgia (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)
Kemira Pigments Inc.	Savannah	38,200
Federal Paper Board Co. Inc.	Augusta	3,165
Fort Howard Corp.	Rincon	3,160
Stone Savannah River Pulp	Port Wentworth	3,096
Union Camp Corp.	Savannah	2,291

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

Facility	City	Persistent toxic metals released to water (lbs)
Kemira Pigments Inc.	Savannah	491,000
Union Camp Corp.	Savannah	25,000
Federal Paper Board Co. Inc.	Augusta	7,300
DSM Chemicals N.A. Inc.	Augusta	2,119

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

Facility	City	Reproductive toxins** released to water (lbs)
Union Camp Corp.	Savannah	5,130
Citgo Asphalt Refining Co.*	Savannah	770

# Little Attapulcus Creek in Georgia

Total toxic pollution reported (1990-1994): 1,431,183 Pounds

**Table 1. Polluters discharging the greatest amounts of toxic chemicals to Little Attapulcus Creek in Georgia (1990-1994).**

Facility	City	Toxic chemical release to water (pounds)
Engelhard Corp. Attapulus	Attapulcus	1,431,183

**Table 2. Toxic chemicals discharged in the greatest amounts to Little Attapulcus Creek in Georgia (1990-1994).**

Chemical	Toxic chemical release to waterbody (pounds)
Ammonium nitrate (solution)	1,427,478
Ammonia	3,705

‡ 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 Little Attapulcus Creek in Georgia (1990-1994).**

Carcinogens	0 Pounds
Persistent Toxic Metals	0 Pounds
Reproductive Toxins	0 Pounds
<b>Total‡</b>	<b>0 Pounds</b>

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

**Top dischargers of carcinogens\*\* to Little Attapulcus Creek in Georgia (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)

**Top dischargers of persistent toxic metals to Little Attapulcus Creek in Georgia (1990-1994).**

Facility	City	Persistent toxic metals released to water (lbs)

**Top dischargers of reproductive toxins\*\* to Little Attapulcus Creek in Georgia (1990-1994).**

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

# The Withlacoochee River in Georgia

Total toxic pollution reported (1990-1994): 737,794 Pounds

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

Facility	City	Toxic chemical release to water (pounds)
Packaging Corp. Of America	Clyattville	737,794

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

Chemical	Toxic chemical release to waterbody (pounds)
Ammonium sulfate (solution)	450,000
Ammonium nitrate (solution)	113,500
Methanol	92,200
Ammonia	68,250
Acetone	9,200
Catechol	3,460
Methyl ethyl ketone	900
Acetaldehyde	250

‡ 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 Withlacoochee River in Georgia (1990-1994).**

Carcinogens	255 Pounds
Persistent Toxic Metals	0 Pounds
Reproductive Toxins	5 Pounds
<b>Total‡</b>	<b>260 Pounds</b>

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

**Top dischargers of carcinogens\*\* to the Withlacoochee River in Georgia (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)
Packaging Corp. Of America	Clyattville	255

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

Facility	City	Persistent toxic metals released to water (lbs)

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

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



# The Chattahoochee River in Georgia

Total toxic pollution reported (1990-1994): 641,523 Pounds

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

Facility	City	Toxic chemical release to water (pounds)
Camp Creek WPC Plant	College Park	455,863
Great Southern Paper	Cedar Springs	183,890
Georgia Tubing Corp.*	Cedar Springs	1,260
Columbus Towel	Columbus	500

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

Chemical	Toxic chemical release to waterbody (pounds)
Chlorine	456,613
Methanol	110,000
Acetone	54,000
Catechol	8,700
Methyl ethyl ketone	7,000
Acetaldehyde	1,900
Phenol	1,560
Zinc (fume or dust)	750
Ammonia	730
Cyanide compounds	250

‡ 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 Chattahoochee River in Georgia (1990-1994).**

Carcinogens	1,900 Pounds
Persistent Toxic Metals	750 Pounds
Reproductive Toxins	0 Pounds
<b>Total‡</b>	<b>2,650 Pounds</b>

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

**Top dischargers of carcinogens\*\* to the Chattahoochee River in Georgia (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)
Great Southern Paper	Cedar Springs	1,900

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

Facility	City	Persistent toxic metals released to water (lbs)
Georgia Tubing Corp.*	Cedar Springs	750

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

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

# The Flint River in Georgia

Total toxic pollution reported (1990-1994): 535,393 Pounds

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

Facility	City	Toxic chemical release to water (pounds)
Weyerhaeuser Co.	Oglethorpe	316,930
Merck & Co. Inc.	Albany	108,700
Vigoro Ind. Inc.	Bainbridge	60,645
Miller Brewing Co.	Albany	49,080

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

Chemical	Toxic chemical release to waterbody (pounds)
Ammonia	346,705
Dichloromethane	70,300
Ammonium nitrate (solution)	60,600
Acetone	24,990
Ethylene glycol	20,540
Methyl ethyl ketone	3,630
Toluene	3,277
Formaldehyde	2,980
Catechol	930
Phenol	888

‡ 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 Flint River in Georgia (1990-1994).**

Carcinogens	73,710 Pounds
Persistent Toxic Metals	10 Pounds
Reproductive Toxins	3,277 Pounds
<b>Total‡</b>	<b>76,997 Pounds</b>

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

**Top dischargers of carcinogens\*\* to the Flint River in Georgia (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)
Merck & Co. Inc.	Albany	73,280
Weyerhaeuser Co.	Oglethorpe	430

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

Facility	City	Persistent toxic metals released to water (lbs)

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

Facility	City	Reproductive toxins** released to water (lbs)
Merck & Co. Inc.	Albany	3,277

# The Turtle River in Georgia

Total toxic pollution reported (1990-1994): 482,283 Pounds

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

Facility	City	Toxic chemical release to water (pounds)
Georgia-Pacific Corp.	Brunswick	482,283

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

Chemical	Toxic chemical release to waterbody (pounds)
Chromium compounds	436,000
Chloroform	15,800
Ammonia	10,100
Catechol	7,950
Acetone	7,000
Methyl ethyl ketone	2,940
Phenol	1,830
Acetaldehyde	260
Methanol	200
Cresol (mixed isomers)	200

‡ 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 Turtle River in Georgia (1990-1994).**

Carcinogens	16,063 Pounds
Persistent Toxic Metals	436,000 Pounds
Reproductive Toxins	0 Pounds
<b>Total‡</b>	<b>452,063 Pounds</b>

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

**Top dischargers of carcinogens\*\* to the Turtle River in Georgia (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)
Georgia-Pacific Corp.	Brunswick	16,063

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

Facility	City	Persistent toxic metals released to water (lbs)
Georgia-Pacific Corp.	Brunswick	436,000

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

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

# The Oconee River in Georgia

Total toxic pollution reported (1990-1994): 289,138 Pounds

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

Facility	City	Toxic chemical release to water (pounds)
Mohawk Commercial Carpet*	East Dublin	160,832
Southeast Paper Mfg. Co.	Dublin	114,567
Forstmann & Co. Inc.	Dublin	13,714

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

Chemical	Toxic chemical release to waterbody (pounds)
Ammonium sulfate (solution)	151,212
Ammonia	75,881
Glycol ethers	44,198
Naphthalene	10,314
Chromium compounds	5,487
1,2,4-Trichlorobenzene	1,242
Trichloroethylene	744

‡ 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 Oconee River in Georgia (1990-1994).**

Carcinogens	754 Pounds
Persistent Toxic Metals	5,512 Pounds
Reproductive Toxins	44,942 Pounds
<b>Total‡</b>	<b>50,454 Pounds</b>

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

**Top dischargers of carcinogens\*\* to the Oconee River in Georgia (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)
Forstmann & Co. Inc.	Dublin	744

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

Facility	City	Persistent toxic metals released to water (lbs)
Forstmann & Co. Inc.	Dublin	5,487

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

Facility	City	Reproductive toxins** released to water (lbs)
Southeast Paper Mfg. Co.	Dublin	43,628
Forstmann & Co. Inc.	Dublin	1,314

# The North River in Georgia

Total toxic pollution reported (1990-1994): 147,592 Pounds

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

Facility	City	Toxic chemical release to water (pounds)
Gilman Paper Co.	Saint Marys	147,592

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

Chemical	Toxic chemical release to waterbody (pounds)
Chloroform	53,300
Methanol	48,000
Acetone	17,310
Ammonia	14,750
Catechol	5,272
Methyl ethyl ketone	3,310
Phenol	2,620
Acetaldehyde	2,600
Cresol (mixed isomers)	430

‡ 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 North River in Georgia (1990-1994).**

Carcinogens	55,900 Pounds
Persistent Toxic Metals	0 Pounds
Reproductive Toxins	0 Pounds
<b>Total‡</b>	<b>55,900 Pounds</b>

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

**Top dischargers of carcinogens\*\* to the North River in Georgia (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)
Gilman Paper Co.	Saint Marys	55,900

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

Facility	City	Persistent toxic metals released to water (lbs)

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

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

# The Altamaha River in Georgia

Total toxic pollution reported (1990-1994): 143,930 Pounds

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

Facility	City	Toxic chemical release to water (pounds)
Rayonier Speciality Pulp	Jesup	143,930

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

Chemical	Toxic chemical release to waterbody (pounds)
Methanol	88,000
Chloroform	21,000
Catechol	12,390
Acetone	10,650
Phenol	6,990
Methyl ethyl ketone	1,820
Acetaldehyde	1,800
Dichloromethane	920
Cresol (mixed isomers)	360

‡ 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 Altamaha River in Georgia (1990-1994).**

Carcinogens	23,720 Pounds
Persistent Toxic Metals	0 Pounds
Reproductive Toxins	0 Pounds
<b>Total‡</b>	<b>23,720 Pounds</b>

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

**Top dischargers of carcinogens\*\* to the Altamaha River in Georgia (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)
Rayonier Speciality Pulp	Jesup	23,720

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

Facility	City	Persistent toxic metals released to water (lbs)

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

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

# The Ogeechee River in Georgia

Total toxic pollution reported (1990-1994): 106,603 Pounds

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

Facility	City	Toxic chemical release to water (pounds)
King Finishing Co.	Dover	96,000
Forstmann & Co. Inc.	Louisville	10,603

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

Chemical	Toxic chemical release to waterbody (pounds)
Glycol ethers	95,500
Ammonium sulfate (solution)	5,723
Chromium compounds	3,410
Ammonia	1,470
Xylene (mixed isomers)	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 Ogeechee River in Georgia (1990-1994).**

Carcinogens	0 Pounds
Persistent Toxic Metals	3,410 Pounds
Reproductive Toxins	96,000 Pounds
<b>Total‡</b>	<b>99,410 Pounds</b>

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

**Top dischargers of carcinogens\*\* to the Ogeechee River in Georgia (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)

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

Facility	City	Persistent toxic metals released to water (lbs)
Forstmann & Co. Inc.	Louisville	3,410

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

Facility	City	Reproductive toxins** released to water (lbs)
King Finishing Co.	Dover	96,000