

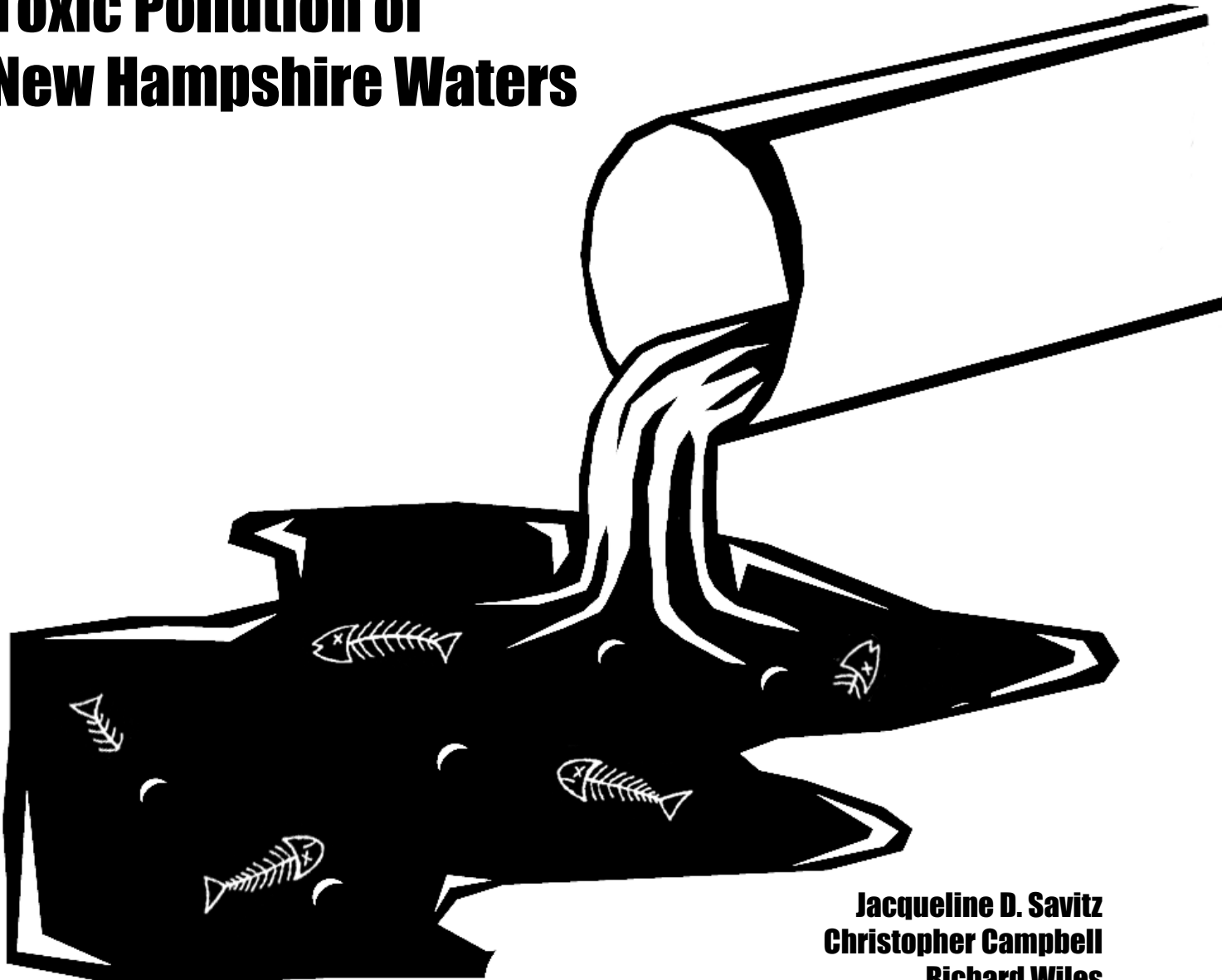


The State PIRGs



Dishonorable Discharge

Toxic Pollution of New Hampshire Waters



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Toxic Pollution of New Hampshire Waters

Executive Summary

Most New Hampshire 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 New Hampshire streams and rivers.

The citizens of New Hampshire 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 New Hampshire and nationwide.

Factories and other industrial facilities dumped more than 648,000 pounds of toxic substances directly into New Hampshire's waters between 1990 and 1994, according to a new analysis of the federal Toxics Release Inventory (TRI) (Table 1). New Hampshire ranked 40th 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 two (1.9) million pounds of toxic materials were flushed to sewage treatment plants in New Hampshire from 1990 through 1994, 39th 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 New Hampshire raises the total amount of toxics dumped to the state's waters to an estimated 1.1 million pounds (Table 1).

The Merrimack River received the greatest amount of toxic water pollution in New Hampshire from 1990-1994, a total of 247,000 pounds, followed by the Androscoggin River, the Ashuelot River, and the Contoocook River (Table 2). The nine most polluted waterways in New Hampshire received 648,000 pounds of toxic pollution between 1990 and 1994, 100.0% percent of the total in the State.

The top three facilities reporting the most toxic pollution of New Hampshire's waters over this period were Hampshire Chemical Corporation in Nashua, which dumped

245,000 pounds of toxic chemicals, followed by James River U.S. Holdings Inc., and Ashuelot Paper Company* in the towns of Berlin, and Hinsdale, respectively (Table 3). The toxic chemicals dumped in the greatest amounts were ammonia, a total of 296,000 pounds, followed by methanol, and sulfuric acid (Table 4).

Hampshire Chemical Corporation dumped the most carcinogens into New Hampshire's waters, a total of 29,700 pounds, followed by Monadnock Paper Mills Inc. and James River U.S. Holdings Inc. (Table 8). The Merrimack River received the greatest amount of cancer-causing toxic chemicals in New Hampshire, a total of 31,000 pounds, followed by the Contoocook River and the Androscoggin River (Table 7).

Webster Foundry Company dumped the greatest amount of persistent toxic metals in New Hampshire's waters, a total of 2,000 pounds, followed by Process Eng. Inc. and (Table 8). The Merrimack River received the greatest amount of persistent toxic metals, a total of 2,000 pounds (Table 7).

Spherex Inc.* dumped the greatest amount of toxic chemicals that cause reproductive damage or birth defects into New Hampshire's waters, a total of 500 pounds, followed by Process Eng. Inc. (Table 8). The Shepherds Brook received the greatest amount of toxic chemicals that cause reproductive damage or birth defects, a total of 500 pounds, followed by an unnamed tributary to Little River (Table 7).

These discharges to New Hampshire's waters include only those wastes released by companies physically located in New Hampshire. 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). 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 90¹ 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 343² 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 New Hampshire’s waters, we used EPA’s assumption that 25 percent of all toxic chemicals transferred to POTWs pass-through untreated³. Table 1 presents the EWG estimate of toxic chemicals assumed to be discharged by the POTWs in New Hampshire. 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 pounds⁴ 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

¹Estimate 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).

²The 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.

³EPA 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.

⁴This 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-Acetylaminoanthraquinone	Chloroethanol	Nickel compounds
2-Aminoanthraquinone	Chromium	Nitrotriacetic 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)	Safrrole
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).

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New Hampshire

Toxic pollution of New Hampshire waters (1990-1994)

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

Direct Water Discharges	648,294 Pounds
Estimated Sewer Discharges‡	491,343 Pounds
Total Discharges to Waters	1,139,637 Pounds

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

River or Water Body	Toxic chemical release to waterbody (pounds)
Merrimack River	247,016
Androscoggin River	209,052
Ashuelot River	86,310
Contoocook River	67,300
Connecticut River	34,710
Souhegan River	2,598
Shepherds Brook	500
Beaver Brook	382
Unnamed Tributary To Little River	288

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

Facility	City	Toxic chemical release to waters (pounds)
Hampshire Chemical Corp.	Nashua	244,941
James River U.S. Holdings Inc.	Berlin	209,052
Ashuelot Paper Co.*	Hinsdale	86,310
Monadnock Paper Mills Inc.	Bennington	67,300
Wausau Papers	Groveton	34,720
Hitchiner Mfg. Co. Inc.	Milford	2,598
Webster Fndy. Co.	Franklin	1,956
Spherex Inc.*	Seabrook	500
Hadco Corp.	Derry	382
Process Eng. Inc.	Plaistow	288

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

Chemical	Toxic chemical release to waters (pounds)
Ammonia	296,374
Methanol	185,791
Sulfuric acid	86,320
Formaldehyde	49,650
Acetone	11,987
Chloroform	9,550
Catechol	4,467
Lead compounds	1,044
Cyanide compounds	927
Zinc (fume or dust)	515

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

Facility	City	Toxic chemical release to sewers (pounds)
Teradyne Inc.	Nashua	732,817
Hadco Corp.	Derry	623,377
Hadco Tech Center One	Salem	297,127
Hadco Corp.	Hudson	119,855
Dynaco Corp.	Derry	46,788
Anheuser-Busch Inc.	Merrimack	37,683
Textron Inc.	Dover	27,740
Teledyne Electro Techs.	Hudson	20,703
James River U.S. Holdings Inc.	Berlin	14,549
Electropac Co. Inc.	Manchester	7,100

‡ Total discharges of toxic chemicals to sewer systems in New Hampshire was 1,965,373 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.

New Hampshire

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

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

Carcinogens	61,035 Pounds
Persistent Toxic Metals	2,441 Pounds
Reproductive Toxins	781 Pounds
Total (see note)	62,152 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. New Hampshire waters receiving the greatest amounts of carcinogens, persistent toxic metals, and reproductive toxins** (1990-1994).**

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

River or Water Body	Carcinogens** released to waters (lbs.)
Merrimack River	30,745
Contoocook River	19,900
Androscoggin River	8,345
Connecticut River	1,200
Shepherds Brook	500

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

River or Water Body	Persistent toxic metals released to waters (lbs.)
Merrimack River	2,009
Unnamed Tributary To Little River	288

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

River or Water Body	Reproductive toxins** released to waters (lbs.)
Shepherds Brook	500
Unnamed Tributary To Little River	260

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

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

Facility	City	Carcinogens** released to waters (lbs.)
Hampshire Chemical Corp.	Nashua	29,720
Monadnock Paper Mills Inc.	Bennington	19,900
James River U.S. Holdings Inc.	Berlin	8,345
Wausau Papers	Groveton	1,205
Webster Fndy. Co.	Franklin	1,005

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

Facility	City	Persistent toxic metals released to waters (lbs.)
Webster Fndy. Co.	Franklin	1,956
Process Eng. Inc.	Plaistow	288

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

Facility	City	Reproductive toxins** released to waters (lbs.)
Spherex Inc.*	Seabrook	500
Process Eng. Inc.	Plaistow	260

* 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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The Merrimack River in New Hampshire

Total toxic pollution reported (1990-1994): 247,016 Pounds

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

Facility	City	Toxic chemical release to water (pounds)
Hampshire Chemical Corp.	Nashua	244,941
Webster Fndy. Co.	Franklin	1,951

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

Chemical	Toxic chemical release to waterbody (pounds)
Methanol	144,400
Ammonia	69,945
Formaldehyde	29,720
Lead compounds	1,025
Cyanide compounds	927
Zinc (fume or dust)	515
Copper compounds	434

‡ 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 Merrimack River in New Hampshire (1990-1994).**

Carcinogens	30,745 Pounds
Persistent Toxic Metals	2,009 Pounds
Reproductive Toxins	0 Pounds
Total‡	31,729 Pounds

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

Top dischargers of carcinogens to the Merrimack River in New Hampshire (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)
Hampshire Chemical Corp.	Nashua	29,720
Webster Fndy. Co.	Franklin	1,005

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

Facility	City	Persistent toxic metals released to water (lbs)
Webster Fndy. Co.	Franklin	1,951

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

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

The Androscoggin River in New Hampshire

Total toxic pollution reported (1990-1994): 209,052 Pounds

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

Facility	City	Toxic chemical release to water (pounds)
James River U.S. Holdings Inc.	Berlin	209,052

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

Chemical	Toxic chemical release to waterbody (pounds)
Ammonia	142,661
Methanol	41,391
Acetone	11,987
Chloroform	8,345
Catechol	4,467
Methyl ethyl ketone	196

‡ 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 Androscoggin River in New Hampshire (1990-1994).**

Carcinogens	8,345 Pounds
Persistent Toxic Metals	0 Pounds
Reproductive Toxins	0 Pounds
Total‡	8,345 Pounds

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

Top dischargers of carcinogens to the Androscoggin River in New Hampshire (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)
James River U.S. Holdings Inc.	Berlin	8,345

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

Facility	City	Persistent toxic metals released to water (lbs)

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

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

The Ashuelot River in New Hampshire

Total toxic pollution reported (1990-1994): 86,310 Pounds

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

Facility	City	Toxic chemical release to water (pounds)
Ashuelot Paper Co.*	Hinsdale	86,310

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

Chemical	Toxic chemical release to waterbody (pounds)
Sulfuric acid	86,310

‡ 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 Ashuelot River in New Hampshire (1990-1994).**

Carcinogens	0 Pounds
Persistent Toxic Metals	0 Pounds
Reproductive Toxins	0 Pounds
Total‡	0 Pounds

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

Top dischargers of carcinogens to the Ashuelot River in New Hampshire (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)

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

Facility	City	Persistent toxic metals released to water (lbs)

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

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

The Contoocook River in New Hampshire

Total toxic pollution reported (1990-1994): 67,300 Pounds

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

Facility	City	Toxic chemical release to water (pounds)
Monadnock Paper Mills Inc.	Bennington	67,300

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

Chemical	Toxic chemical release to waterbody (pounds)
Ammonia	47,400
Formaldehyde	19,900

‡ 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 Contoocook River in New Hampshire (1990-1994).**

Carcinogens	19,900 Pounds
Persistent Toxic Metals	0 Pounds
Reproductive Toxins	0 Pounds
Total‡	19,900 Pounds

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

Top dischargers of carcinogens to the Contoocook River in New Hampshire (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)
Monadnock Paper Mills Inc.	Bennington	19,900

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

Facility	City	Persistent toxic metals released to water (lbs)

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

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

The Connecticut River in New Hampshire

Total toxic pollution reported (1990-1994): 34,710 Pounds

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

Facility	City	Toxic chemical release to water (pounds)
Wausau Papers	Groveton	34,710

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

Chemical	Toxic chemical release to waterbody (pounds)
Ammonia	33,500
Chloroform	1,200

‡ 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 Connecticut River in New Hampshire (1990-1994).**

Carcinogens	1,200 Pounds
Persistent Toxic Metals	0 Pounds
Reproductive Toxins	0 Pounds
Total‡	1,200 Pounds

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

Top dischargers of carcinogens to the Connecticut River in New Hampshire (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)
Wausau Papers	Groveton	1,200

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

Facility	City	Persistent toxic metals released to water (lbs)

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

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

The Souhegan River in New Hampshire

Total toxic pollution reported (1990-1994): 2,598 Pounds

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

Facility	City	Toxic chemical release to water (pounds)
Hitchiner Mfg. Co. Inc.	Milford	2,598

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

Chemical	Toxic chemical release to waterbody (pounds)
Ammonia	2,558

‡ 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 Souhegan River in New Hampshire (1990-1994).**

Carcinogens	0 Pounds
Persistent Toxic Metals	5 Pounds
Reproductive Toxins	0 Pounds
Total‡	5 Pounds

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

Top dischargers of carcinogens to the Souhegan River in New Hampshire (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)

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

Facility	City	Persistent toxic metals released to water (lbs)

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

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

Shepherds Brook in New Hampshire

Total toxic pollution reported (1990-1994): 500 Pounds

Table 1. Polluters discharging the greatest amounts of toxic chemicals to Shepherds Brook in New Hampshire (1990-1994).

Facility	City	Toxic chemical release to water (pounds)
Spherex Inc.*	Seabrook	500

Table 2. Toxic chemicals discharged in the greatest amounts to Shepherds Brook in New Hampshire (1990-1994).

Chemical	Toxic chemical release to waterbody (pounds)
Di-(2-ethylhexyl) phthalate	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 Shepherds Brook in New Hampshire (1990-1994).**

Carcinogens	500 Pounds
Persistent Toxic Metals	0 Pounds
Reproductive Toxins	500 Pounds
Total‡	500 Pounds

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

Top dischargers of carcinogens to Shepherds Brook in New Hampshire (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)
Spherex Inc.*	Seabrook	500

Top dischargers of persistent toxic metals to Shepherds Brook in New Hampshire (1990-1994).

Facility	City	Persistent toxic metals released to water (lbs)

Top dischargers of reproductive toxins to Shepherds Brook in New Hampshire (1990-1994).**

Facility	City	Reproductive toxins** released to water (lbs)
Spherex Inc.*	Seabrook	500

Beaver Brook in New Hampshire

Total toxic pollution reported (1990-1994): 382 Pounds

Table 1. Polluters discharging the greatest amounts of toxic chemicals to Beaver Brook in New Hampshire (1990-1994).

Facility	City	Toxic chemical release to water (pounds)
Hadco Corp.	Derry	382

Table 2. Toxic chemicals discharged in the greatest amounts to Beaver Brook in New Hampshire (1990-1994).

Chemical	Toxic chemical release to waterbody (pounds)
Ammonia	310

‡ 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 Beaver Brook in New Hampshire (1990-1994).**

Carcinogens	15 Pounds
Persistent Toxic Metals	62 Pounds
Reproductive Toxins	0 Pounds
Total‡	72 Pounds

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

Top dischargers of carcinogens to Beaver Brook in New Hampshire (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)

Top dischargers of persistent toxic metals to Beaver Brook in New Hampshire (1990-1994).

Facility	City	Persistent toxic metals released to water (lbs)

Top dischargers of reproductive toxins to Beaver Brook in New Hampshire (1990-1994).**

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

The Unnamed Tributary To Little River in New Hampshire

Total toxic pollution reported (1990-1994): 288 Pounds

Table 1. Polluters discharging the greatest amounts of toxic chemicals to the Unnamed Tributary To Little River in New Hampshire (1990-1994).

Facility	City	Toxic chemical release to water (pounds)
Process Eng. Inc.	Plaistow	288

Table 2. Toxic chemicals discharged in the greatest amounts to the Unnamed Tributary To Little River in New Hampshire (1990-1994).

Chemical	Toxic chemical release to waterbody (pounds)
Nickel	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 the Unnamed Tributary To Little River in New Hampshire**

Carcinogens	275 Pounds
Persistent Toxic Metals	288 Pounds
Reproductive Toxins	260 Pounds
Total‡	288 Pounds

Table 4. Polluters reporting the greatest amounts of carcinogens, persistent toxic metals, and reproductive toxins** discharged to the Unnamed Tributary To Little River in New Hampshire (1990-1994).**

Top dischargers of carcinogens to the Unnamed Tributary To Little River in New Hampshire (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)
Process Eng. Inc.	Plaistow	275

Top dischargers of persistent toxic metals to the Unnamed Tributary To Little River in New Hampshire (1990-1994).

Facility	City	Persistent toxic metals released to water (lbs)
Process Eng. Inc.	Plaistow	288

Top dischargers of reproductive toxins to the Unnamed Tributary To Little River in New Hampshire (1990-1994).**

Facility	City	Reproductive toxins** released to water (lbs)
Process Eng. Inc.	Plaistow	260

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

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