

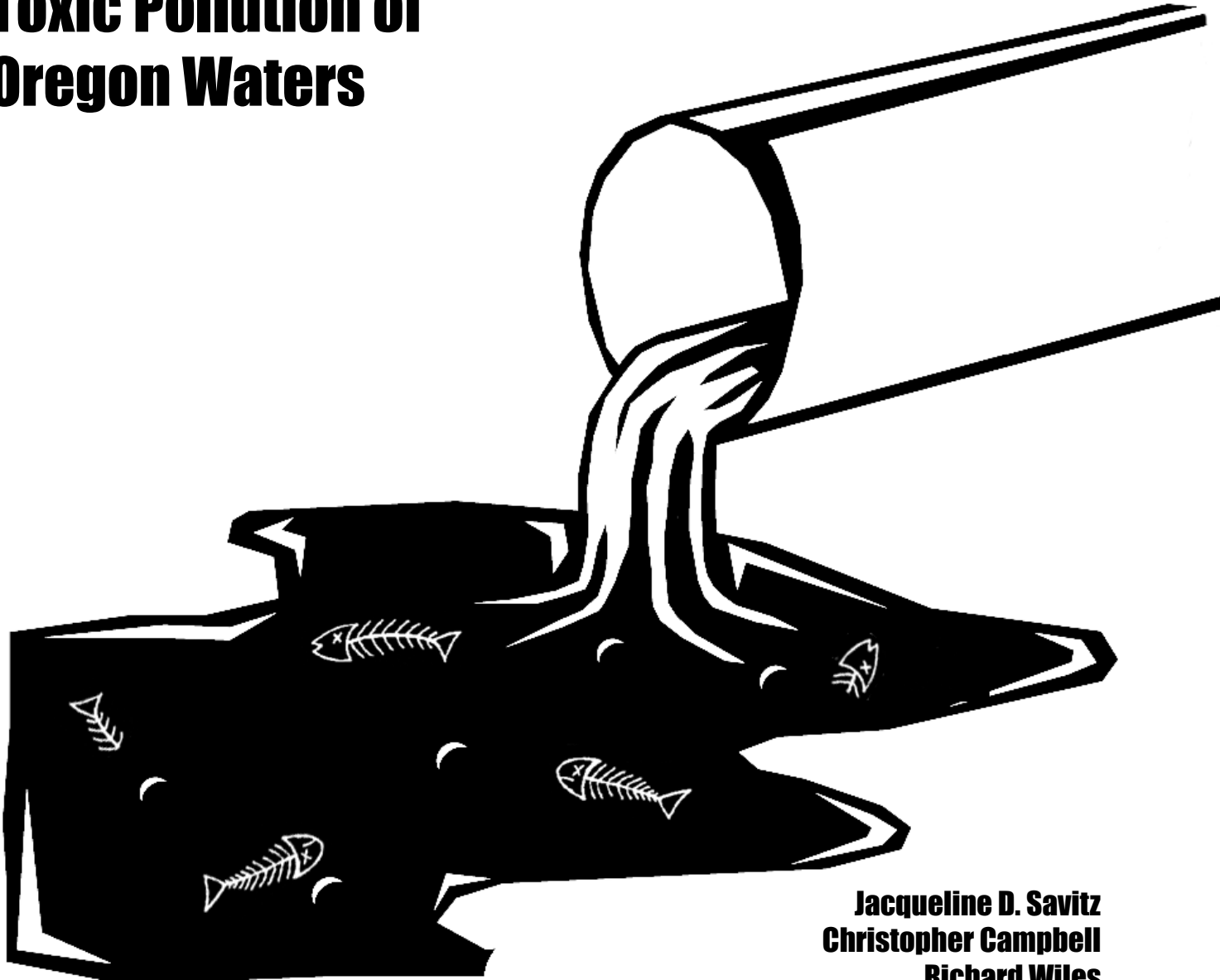


The State PIRGs



Dishonorable Discharge

**Toxic Pollution of
Oregon Waters**



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

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Toxic Pollution of Oregon Waters

Executive Summary

Most Oregon 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 Oregon streams and rivers.

The citizens of Oregon 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 Oregon and nationwide.

Factories and other industrial facilities dumped more than 2.5 million pounds of toxic substances directly into Oregon's waters between 1990 and 1994, according to a new analysis of the federal Toxics Release Inventory (TRI) (Table 1). Oregon ranked 32nd 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 31 million pounds of toxic materials were flushed to sewage treatment plants in Oregon from 1990 through 1994, 15th 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 Oregon raises the total amount of toxics dumped to the state's waters to an estimated 10.3 million pounds (Table 1).

The Willamette River received the greatest amount of toxic water pollution in Oregon from 1990-1994, a total of 1,200,000 pounds, followed by the Columbia River, the Pacific Ocean, and the McKenzie River (Table 2). The ten most polluted waterways in Oregon received 2,530,000 pounds of toxic pollution between 1990 and 1994, 99.6% percent of the total in the State.

The top three facilities reporting the most toxic pollution of Oregon's waters over this period were James River Paper Company, Inc. in Clatskanie, which dumped

933,000 pounds of toxic chemicals, followed by Smurfit Newsprint Corporation, and Teledyne Wah Chang Albany in the towns of Newberg, and Albany, respectively (Table 3). The toxic chemicals dumped in the greatest amounts were ammonia, a total of 1,450,000 pounds, followed by methanol, and glycol ethers (Table 4).

James River Paper Company Inc. dumped the most carcinogens into Oregon's waters, a total of 26,400 pounds, followed by Neste Resins Corporation and Pope & Talbot Inc. (Table 8). The Willamette River received the greatest amount of cancer-causing toxic chemicals in Oregon, a total of 36,000 pounds, followed by the Columbia River and the Pacific Ocean (Table 7).

Smurfit Newsprint Corporation dumped the greatest amount of persistent toxic metals in Oregon's waters, a total of 68,000 pounds, followed by Willamette Ind. Inc. and James River Paper Company Inc. (Table 8). The Willamette River received the greatest amount of persistent toxic metals, a total of 110,000 pounds, followed by the Columbia River and the Yamhill River (Table 7).

James River Paper Company Inc. dumped the greatest amount of toxic chemicals that cause reproductive damage or birth defects into Oregon's waters, a total of 207,000 pounds, followed by Smurfit Newsprint Corporation and Cascade General Inc. (Table 8). The Columbia River received the greatest amount of toxic chemicals that cause reproductive damage or birth defects, a total of 207,000 pounds, followed by the Willamette River and Thompson Creek (Table 7).

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

Recommendations

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

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

We recommend:

- Timely implementation of the EPA's proposed expansion of industries and facilities required to report toxic releases under the TRI.
- Expansion of TRI reporting requirements to include full materials accounting for any facility or industry that uses or releases a toxic substance that may pose a risk to human health and the environment.



Dishonorable Discharge

Toxic pollution of rivers, lakes, streams, and bays is a serious problem in all 50 states. Twenty five years after the passage of the Clean Water Act, nearly forty (40) percent of America's rivers, lakes, and coastal waters remain unsafe for fishing, swimming or basic recreation (EPA 1996b). 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 Oregon'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 Oregon. 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-Nitrososnormicotine
2,4-Diaminotoluene	Chloromethyl methyl ether	N-Nitrosopiperidine
2,4-Dinitrotoluene	Chlorophenols	Nickel
2-Acetylaminofluorene	Chloroethanol	Nickel compounds
2-Aminanthraquinone	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
Ben-zidine [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
 Toulene
 Trichloroethylene
 Xylene(mixed isomers)
 o-xylene
 m-xylene
 p-xylene
 Di-n-butyl phthalate
 Glycol ethers
 Mercury Compounds
 Mercury
 Benzene
 Aluminum
 Arsenic
 Nickel
 Lindane
 Vinyl Chloride

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

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Oregon

Toxic pollution of Oregon waters (1990-1994)

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

Direct Water Discharges	2,535,432 Pounds
Estimated Sewer Discharges†	7,737,733 Pounds
Total Discharges to Waters	10,273,165 Pounds

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

River or Water Body	Toxic chemical release to waterbody (pounds)
Willamette River	1,202,737
Columbia River	1,001,516
Pacific Ocean	259,864
Mckenzie River	45,521
Yamhill River	6,525
Pudding River	3,395
Tributary Of Amazon Creek	1,836
Unnamed Tributary To Amazon A-1 Channel	1,364
Murder Creek	1,262
Johnson Creek	1,260

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

Facility	City	Toxic chemical release to waters (pounds)
James River Paper Co. Inc.	Clatskanie	932,533
Smurfit Newsprint Corp.	Newberg	374,934
Teledyne Wah Chang Albany	Albany	324,150
Evanite Fiber Corp.	Corvallis	179,000
Pope & Talbot Inc.	Halsey	178,476
Georgia-Pacific West Corp.	Toledo	154,995
International Paper	Gardiner	61,571
Chevron Chemical Co.	St. Helens	54,100
Weyerhaeuser Co.	Springfield	45,521
Weyerhaeuser Paper Co.	North Bend	43,298

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

Chemical	Toxic chemical release to waters (pounds)
Ammonia	1,453,695
Methanol	319,573
Glycol ethers	251,624
Zinc compounds	87,984
Acetone	69,866
Ammonium nitrate (solution)	67,100
Catechol	41,659
Chloroform	40,957
Methyl isobutyl ketone	39,245
Ethylene glycol	28,255

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

Facility	City	Toxic chemical release to sewers (pounds)
Boise Cascade Corp.	Saint Helens	26,028,877
Siltec Silicon	Salem	1,199,167
Lamb-Weston Inc.	Boardman	1,018,508
Tektronix Inc.	Beaverton	542,213
Merix Corp.	Forest Grove	312,450
Intel Corp.	Aloha	296,355
Hewlett-Packard Co.	Corvallis	240,803
Large Structurals Business	Portland	185,285
Frontier Leather Co. Inc.	Sherwood	166,912
Intel Corp.	Hillsboro	147,518

† Total discharges of toxic chemicals to sewer systems in Oregon was 30,950,932 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.

Oregon

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

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

Carcinogens	84,019 Pounds
Persistent Toxic Metals	136,978 Pounds
Reproductive Toxins	262,648 Pounds
Total (see note)	471,442 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. Oregon waters receiving the greatest amounts of carcinogens, persistent toxic metals, and reproductive toxins** (1990-1994).**

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

River or Water Body	Carcinogens** released to waters (lbs.)
Willamette River	35,837
Columbia River	26,400
Pacific Ocean	13,620
Yamhill River	3,005
Tributary Of Amazon Creek	1,054

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

River or Water Body	Persistent toxic metals released to waters (lbs.)
Willamette River	110,218
Columbia River	15,800
Yamhill River	4,275
Tributary Of Amazon Creek	1,066
Johnson Creek	1,010

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

River or Water Body	Reproductive toxins** released to waters (lbs.)
Columbia River	207,460
Willamette River	53,253
Thompson Creek	702
Yamhill River	500
Crawford Creek	367

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

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

Facility	City	Carcinogens** released to waters (lbs.)
James River Paper Co. Inc.	Clatskanie	26,400
Neste Resins Corp.	Springfield	15,600
Pope & Talbot Inc.	Halsey	14,552
Georgia-Pacific West Corp.	Toledo	7,020
Teledyne Wah Chang Albany	Albany	3,900

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

Facility	City	Persistent toxic metals released to waters (lbs.)
Smurfit Newsprint Corp.	Newberg	68,000
Willamette Ind. Inc.	Albany	16,469
James River Paper Co. Inc.	Clatskanie	15,800
Cascade General Inc.	Portland	15,256
Teledyne Wah Chang Albany	Albany	7,900

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

Facility	City	Reproductive toxins** released to waters (lbs.)
James River Paper Co. Inc.	Clatskanie	207,460
Smurfit Newsprint Corp.	Newberg	44,164
Cascade General Inc.	Portland	8,678
Glenbrook Nickel Co.	Riddle	1,076
Taylor Lumber & Treating Inc.	Sheridan	500

* 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 • Web: <http://www.ewg.org>

The Willamette River in Oregon

Total toxic pollution reported (1990-1994): 1,202,737 Pounds

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

Facility	City	Toxic chemical release to water (pounds)
Smurfit Newsprint Corp.	Newberg	374,934
Teledyne Wah Chang Albany	Albany	324,150
Evanite Fiber Corp.	Corvallis	179,000
Pope & Talbot Inc.	Halsey	178,476
Smurfit Newsprint Corp.	Oregon City	42,526
Willamette Ind. Inc.	Albany	31,758
Cascade General Inc.	Portland	27,569
Wacker Siltronic Corp.	Portland	21,868
Neste Resins Corp.	Springfield	15,788
Elf Atochem N.a. Inc.	Portland	

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

Chemical	Toxic chemical release to waterbody (pounds)
Ammonia	785,420
Methanol	118,620
Zinc compounds	86,786
Glycol ethers	44,164
Methyl isobutyl ketone	39,245
Catechol	29,143
Acetone	23,976
Formaldehyde	15,600
Chloroform	14,552
Copper compounds	13,724

‡ 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 Willamette River in Oregon (1990-1994).**

Carcinogens	35,837 Pounds
Persistent Toxic Metals	110,218 Pounds
Reproductive Toxins	53,253 Pounds
Total‡	194,314 Pounds

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

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

Facility	City	Carcinogens** released to water (lbs)
Neste Resins Corp.	Springfield	15,600
Pope & Talbot Inc.	Halsey	14,552
Teledyne Wah Chang Albany	Albany	3,900
Smurfit Newsprint Corp.	Newberg	750
Oregon Steel Mills Inc.	Portland	626

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

Facility	City	Persistent toxic metals released to water (lbs)
Smurfit Newsprint Corp.	Newberg	68,000
Willamette Ind. Inc.	Albany	16,469
Cascade General Inc.	Portland	15,256
Teledyne Wah Chang Albany	Albany	7,900
Evanite Fiber Corp.	Corvallis	1,042

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

Facility	City	Reproductive toxins** released to water (lbs)
Smurfit Newsprint Corp.	Newberg	44,164
Cascade General Inc.	Portland	8,678
Oregon Steel Mills Inc.	Portland	342

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

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The Columbia River in Oregon

Total toxic pollution reported (1990-1994): 1,001,516 Pounds

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

Facility	City	Toxic chemical release to water (pounds)
James River Paper Co. Inc.	Clatskanie	932,533
Chevron Chemical Co.	St. Helens	54,100
Northwest Aluminum Co. Inc.	The Dalles	10,699
Christenson Oil	Portland	1,500
Morrison Oil Co. Inc.*	Portland	1,500
Bioproducts Inc.	Warrenton	1,000
Reynolds Metals Co.*	Troutdale	184

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

Chemical	Toxic chemical release to waterbody (pounds)
Ammonia	618,200
Glycol ethers	207,460
Ammonium nitrate (solution)	54,100
Ethylene glycol	28,250
Chloroform	26,400
Chromium compounds	15,800
Acetone	15,300
Methyl ethyl ketone	15,200
Chlorine	10,549
Catechol	7,163

‡ 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 Columbia River in Oregon (1990-1994).**

Carcinogens	26,400 Pounds
Persistent Toxic Metals	15,800 Pounds
Reproductive Toxins	207,460 Pounds
Total‡	249,660 Pounds

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

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

Facility	City	Carcinogens** released to water (lbs)
James River Paper Co. Inc.	Clatskanie	26,400

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

Facility	City	Persistent toxic metals released to water (lbs)
James River Paper Co. Inc.	Clatskanie	15,800

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

Facility	City	Reproductive toxins** released to water (lbs)
James River Paper Co. Inc.	Clatskanie	207,460

The Pacific Ocean in Oregon

Total toxic pollution reported (1990-1994): 259,864 Pounds

Table 1. Polluters discharging the greatest amounts of toxic chemicals to the Pacific Ocean in Oregon (1990-1994).

Facility	City	Toxic chemical release to water (pounds)
Georgia-Pacific West Corp.	Toledo	154,995
International Paper	Gardiner	61,571
Weyerhaeuser Paper Co.	North Bend	43,298

Table 2. Toxic chemicals discharged in the greatest amounts to the Pacific Ocean in Oregon (1990-1994).

Chemical	Toxic chemical release to waterbody (pounds)
Methanol	167,098
Ammonia	30,830
Acetone	29,800
Ammonium nitrate (solution)	13,000
Acetaldehyde	6,820
Formaldehyde	6,800
Catechol	3,346
Methyl ethyl ketone	2,170

‡ 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 Pacific Ocean in Oregon (1990-1994).**

Carcinogens	13,620 Pounds
Persistent Toxic Metals	0 Pounds
Reproductive Toxins	0 Pounds
Total‡	13,620 Pounds

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

Top dischargers of carcinogens to the Pacific Ocean in Oregon (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)
Georgia-Pacific West Corp.	Toledo	7,020
International Paper	Gardiner	3,600
Weyerhaeuser Paper Co.	North Bend	3,000

Top dischargers of persistent toxic metals to the Pacific Ocean in Oregon (1990-1994).

Facility	City	Persistent toxic metals released to water (lbs)

Top dischargers of reproductive toxins to the Pacific Ocean in Oregon (1990-1994).**

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

The Mckenzie River in Oregon

Total toxic pollution reported (1990-1994): 45,521 Pounds

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

Facility	City	Toxic chemical release to water (pounds)
Weyerhaeuser Co.	Springfield	45,521

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

Chemical	Toxic chemical release to waterbody (pounds)
Methanol	30,200
Ammonia	11,730
Catechol	1,300
Acetone	790
Methyl ethyl ketone	610
Phenol	368
Formaldehyde	265
Acetaldehyde	248

‡ 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 Mckenzie River in Oregon (1990-1994).**

Carcinogens	513 Pounds
Persistent Toxic Metals	0 Pounds
Reproductive Toxins	0 Pounds
Total‡	513 Pounds

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

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

Facility	City	Carcinogens** released to water (lbs)
Weyerhaeuser Co.	Springfield	513

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

Facility	City	Persistent toxic metals released to water (lbs)

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

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

The Yamhill River in Oregon

Total toxic pollution reported (1990-1994): 6,525 Pounds

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

Facility	City	Toxic chemical release to water (pounds)
Taylor Lumber & Treating Inc.	Sheridan	4,770
Cascade Steel Rolling Mills*	Mc Minnville	1,755

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

Chemical	Toxic chemical release to waterbody (pounds)
Pentachlorophenol	1,250
Ammonia	1,000
Copper compounds	1,000
Zinc compounds	765
Arsenic compounds	750
Arsenic	500
Copper	500
Chromium compounds	250
Lead compounds	250
Nickel 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 Yamhill River in Oregon (1990-1994).**

Carcinogens	3,005 Pounds
Persistent Toxic Metals	4,275 Pounds
Reproductive Toxins	500 Pounds
Total‡	5,525 Pounds

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

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

Facility	City	Carcinogens** released to water (lbs)
Taylor Lumber & Treating Inc.	Sheridan	2,500
Cascade Steel Rolling Mills*	Mc Minnville	505

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

Facility	City	Persistent toxic metals released to water (lbs)
Taylor Lumber & Treating Inc.	Sheridan	2,520
Cascade Steel Rolling Mills*	Mc Minnville	1,755

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

Facility	City	Reproductive toxins** released to water (lbs)
Taylor Lumber & Treating Inc.	Sheridan	500

The Pudding River in Oregon

Total toxic pollution reported (1990-1994): 3,395 Pounds

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

Facility	City	Toxic chemical release to water (pounds)
Agripac Inc.*	Woodburn	3,395

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

Chemical	Toxic chemical release to waterbody (pounds)
Ammonia	3,390

‡ 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 Pudding River in Oregon (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 Pudding River in Oregon (1990-1994).**

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

Facility	City	Carcinogens** released to water (lbs)

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

Facility	City	Persistent toxic metals released to water (lbs)

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

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

Tributary Of Amazon Creek in Oregon

Total toxic pollution reported (1990-1994): 1,836 Pounds

Table 1. Polluters discharging the greatest amounts of toxic chemicals to Tributary Of Amazon Creek in Oregon (1990-1994).

Facility	City	Toxic chemical release to water (pounds)
J. H. Baxter & Co.	Eugene	1,836

Table 2. Toxic chemicals discharged in the greatest amounts to Tributary Of Amazon Creek in Oregon (1990-1994).

Chemical	Toxic chemical release to waterbody (pounds)
Pentachlorophenol	765
Copper compounds	527
Arsenic compounds	289
Zinc 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 Tributary Of Amazon Creek in Oregon (1990-1994).**

Carcinogens	1,054 Pounds
Persistent Toxic Metals	1,066 Pounds
Reproductive Toxins	0 Pounds
Total‡	1,831 Pounds

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

Top dischargers of carcinogens to Tributary Of Amazon Creek in Oregon (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)
J. H. Baxter & Co.	Eugene	1,054

Top dischargers of persistent toxic metals to Tributary Of Amazon Creek in Oregon (1990-1994).

Facility	City	Persistent toxic metals released to water (lbs)
J. H. Baxter & Co.	Eugene	1,066

Top dischargers of reproductive toxins to Tributary Of Amazon Creek in Oregon (1990-1994).**

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

An Unnamed Tributary To Amazon A-1 Channel in Oregon

Total toxic pollution reported (1990-1994): 1,364 Pounds

Table 1. Polluters discharging the greatest amounts of toxic chemicals to an Unnamed Tributary To Amazon A-1 Channel in Oregon (1990-1994).

Facility	City	Toxic chemical release to water (pounds)
Georgia-Pacific Resins Inc.	Eugene	1,364

Table 2. Toxic chemicals discharged in the greatest amounts to an Unnamed Tributary To Amazon A-1 Channel in Oregon (1990-1994).

Chemical	Toxic chemical release to waterbody (pounds)
Ammonia	1,355

‡ 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 an Unnamed Tributary To Amazon A-1 Channel in Oregon**

Carcinogens	4 Pounds
Persistent Toxic Metals	0 Pounds
Reproductive Toxins	0 Pounds
Total‡	4 Pounds

Table 4. Polluters reporting the greatest amounts of carcinogens, persistent toxic metals, and reproductive toxins** discharged to an Unnamed Tributary To Amazon A-1 Channel in Oregon (1990-1994).**

Top dischargers of carcinogens to an Unnamed Tributary To Amazon A-1 Channel in Oregon (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)

Top dischargers of persistent toxic metals to an Unnamed Tributary To Amazon A-1 Channel in Oregon (1990-1994).

Facility	City	Persistent toxic metals released to water (lbs)

Top dischargers of reproductive toxins to an Unnamed Tributary To Amazon A-1 Channel in Oregon (1990-1994).**

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

Murder Creek in Oregon

Total toxic pollution reported (1990-1994): 1,262 Pounds

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

Facility	City	Toxic chemical release to water (pounds)
Georgia-Pacific Resins Inc.*	Albany	1,262

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

Chemical	Toxic chemical release to waterbody (pounds)
Methanol	1,260

‡ 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 Murder Creek in Oregon (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 Murder Creek in Oregon (1990-1994).**

Top dischargers of carcinogens to Murder Creek in Oregon (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)

Top dischargers of persistent toxic metals to Murder Creek in Oregon (1990-1994).

Facility	City	Persistent toxic metals released to water (lbs)

Top dischargers of reproductive toxins to Murder Creek in Oregon (1990-1994).**

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

Johnson Creek in Oregon

Total toxic pollution reported (1990-1994): 1,260 Pounds

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

Facility	City	Toxic chemical release to water (pounds)
Large Structurals Business	Portland	1,260

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

Chemical	Toxic chemical release to waterbody (pounds)
Copper compounds	500
Nickel compounds	500
Ammonia	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 Johnson Creek in Oregon (1990-1994).**

Carcinogens	500 Pounds
Persistent Toxic Metals	1,010 Pounds
Reproductive Toxins	0 Pounds
Total‡	1,010 Pounds

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

Top dischargers of carcinogens to Johnson Creek in Oregon (1990-1994).**

Facility	City	Carcinogens** released to water (lbs)
Large Structurals Business	Portland	500

Top dischargers of persistent toxic metals to Johnson Creek in Oregon (1990-1994).

Facility	City	Persistent toxic metals released to water (lbs)
Large Structurals Business	Portland	1,010

Top dischargers of reproductive toxins to Johnson Creek in Oregon (1990-1994).**

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