

How Have Contaminants Been Entering Our Water Supplies?

Chemicals, bacteria and impurities can enter the water source in numerous ways, affecting both public water supplies and private water supplies (private wells).

Following is the EPA's list of some of the biggest threats to our drinking water supply from the EPA Safe Drinking Water Act poster for 2002:

- “STORMWATER RUNOFF IS THE SINGLE BIGGEST THREAT TO THE HEALTH OF OUR WATERWAYS. As water washes over driveways, streets and yards, it picks up nutrients, pollutants and litter and deposits them in surface waters or introduces them into ground water.”
- “We apply 67 MILLION POUNDS OF PESTICIDES to lawns, some of which leaches into ground water or pollutes rivers, lakes and streams every year.”
- “Do-it yourselfers drain about 220 MILLION GALLONS OF USED OIL from their cars, but less than 33 million gallons of this used oil is recycled.”
- “We drive more than 200 MILLION PASSENGER CARS AND LIGHT TRUCKS ALMOST 2 TRILLION MILES EVERY YEAR THAT ACCOUNT FOR ABOUT 50% OF AIR POLLUTION nationwide, and produce **ACID RAIN** that pollutes surfaced water and leaches into ground water.”

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- “WE PRODUCE MORE THAN 230 MILLION TONS OF MUNICIPAL SOLID WASTE ANNUALLY – approximately 4.6 POUNDS OF TRASH OR GARBAGE PER PERSON PER DAY – that contains bacteria, nitrates, viruses, synthetic detergents and household chemicals.”
- “AT LEAST ONE-THIRD OF THE U.S. POPULATION uses septic systems, that discharge MORE THAN 1 TRILLION GALLONS OF HOUSEHOLD WASTEWATER containing bacteria, viruses, nitrates, drugs and hormones, below the ground's surface directly or indirectly into ground water resources every year.”
- “Nearly HALF A MILLION ANIMAL FACTORY FARMS PRODUCE 130 TIMES THE AMOUNT OF WASTE OF THE HUMAN POPULATION EVERY YEAR and are a potential source of bacteria, viruses, nitrates, and animal steroids.”
- “There are more than 12 MILLION RECREATIONAL AND HOUSE BOATS AND 10,000 BOAT MARINAS that may release pollutants such as solvents, gasoline, detergents, and raw sewage directly into waterways.”

Another way chemicals can enter our drinking water is through the public water system itself. Most water supplies add chlorine and fluoride into the water along with chemicals to stop lead from leaching into the drinking water from municipal pipes. Six states have banned the use of fluoride as an additive in public water systems. As we mentioned earlier, Local 2050 (which consists of the scientists, engineers and

CONTAMINANTS	Activated Carbon Filters (Granular)	Twin Stage (Activated Carbon Block and Sediment)	Disinfection - UV light -	6 Stage Reverse Osmosis System	Anion Exchange	Aeration	Distillation
Trichloroethylene	X	X		X(*)			X
Radium				X	X		X
Nitrate				X	X		X
Cryptosporidium Parvum			X	X			X
Ammonium				X			X
Zinc				X			X
Total Dissolved Solids				X			X
Cyanide				X			X
Objectionable Taste	X			X			X
Sediment		X		X			X
Objectionable Odor	X		x	X(*)			
Color	X			X	X		X

* – with added filtration assistance from carbon filters

EPA-Regulated Contaminants

Microorganisms

Contaminant	MCLG ¹ (mg/L) ²	MCL or TT ¹ (mg/L) ²	Potential Health Effects from Ingestion of Water	Sources of Contaminant in Drinking Water
<i>Cryptosporidium</i>	zero	TT ³	Gastrointestinal illness (e.g., diarrhea, vomiting, cramps)	Human and fecal animal waste
<i>Giardia lamblia</i>	zero	TT ³	Gastrointestinal illness (e.g., diarrhea, vomiting, cramps)	Human and animal fecal waste
<u>Heterotrophic plate count</u>	n/a	TT ³	HPC has no health effects; it is an analytic method used to measure the variety of bacteria that are common in water. The lower the concentration of bacteria in drinking water, the better maintained the water system is.	HPC measures a range of bacteria that are naturally present in the environment
<i>Legionella</i>	zero	TT ³	Legionnaire's Disease, a type of pneumonia	Found naturally in water; multiplies in heating systems