

Take Back the Tap:

The Big Business Hustle of Bottled Water

People may believe the myth that bottled water is purer and healthier than tap water, largely because of the bottled water industry's ubiquitous and crafty marketing tactics — including targeting vulnerable and lower-income consumers.¹ Today, many people buy water in plastic bottles rather than drinking from the tap or a fountain. But people may not know that the federal government requires more rigorous safety monitoring of municipal tap water than it does of bottled water.²

The public relations push touting the purity and health benefits of bottled water hides a colossal environmental footprint. It took upwards of 82 million barrels of oil to manufacture the 4 billion pounds of plastic used to make the plastic water bottles sold in the United States in 2016.³⁴ Most of these bottles ended up in landfills, as litter or incinerated. And bottled water companies profit by pumping out our groundwater, depleting local water supplies and ecosystems.

The Big Business of Bottled Water

After declining during the Great Recession, bottled water sales and consumption increased from 2010 to 2016⁵ — including rapid growth in cheaper, private-label water (store brands).⁶ The top beverage companies in the United States are now using bottled water as a profit center, and as a replacement for lagging soft drink sales.⁷ In 2016, bottled water sales surpassed soft drinks for the first time as the largest U.S. beverage category by volume.⁸

By 2016, bottled water sales in the United States reached nearly 40 gallons of bottled water per person.⁹ In 2016, the U.S. bottled water industry sold nearly 8 billion bottles, generating \$14.7 billion in revenue.¹⁰ Most of these bottled water sales and profits line the pockets of the biggest companies like Nestlé, Coca-Cola (Dasani brand) and

PepsiCo (Aquafina), which sold more than half of all U.S. bottled water in 2016.¹¹

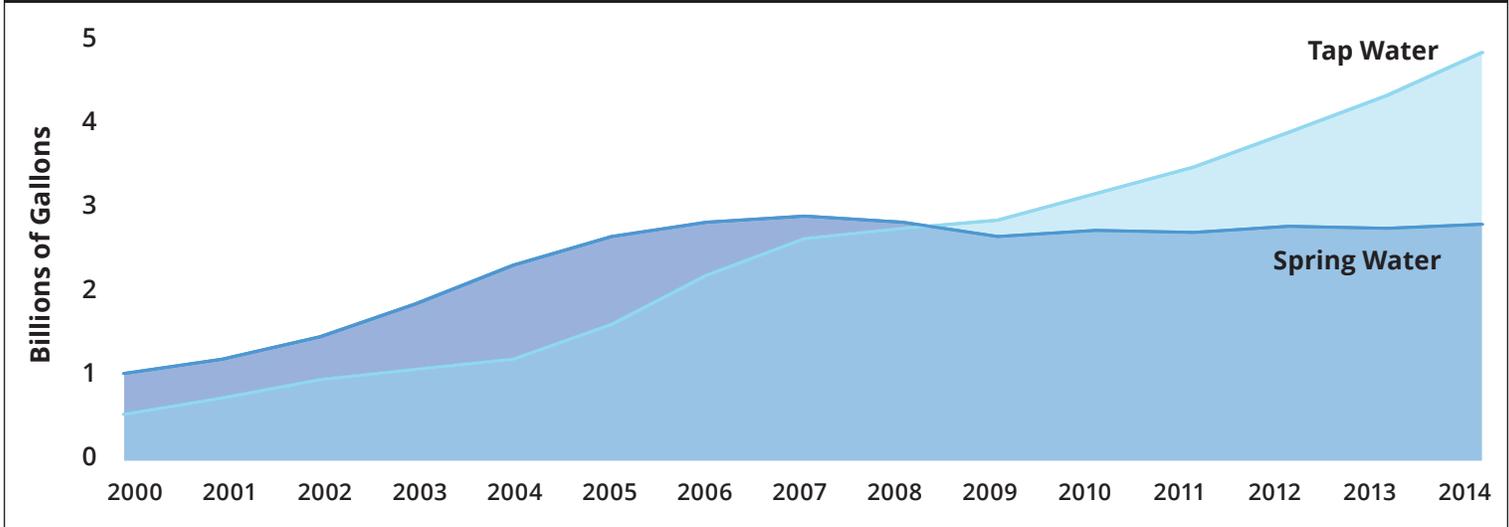
Bottled Water Costs More Than Gasoline

Bottled water was once marketed as natural spring water, but today it is mostly filtered municipal tap water. The bottled water industry has promoted the purity of its products to sell tap water under vague labels that sidestep questions about the origin of the water. In just five years, the share of bottled water from municipal tap water rose from just over half (51.8 percent) in 2009 to nearly two-thirds (nearly 64 percent) in 2014 (see Fig. 1 on page 2).¹²

Tap water costs a fraction of the price of bottled water. A gallon of municipal tap water costs half a penny.¹³ This includes the cost to pump, treat and send water to the faucet.¹⁴ But at about \$1.50 per single-serve container, a gallon of bottled water would cost almost \$9.50 — 2,000 times more expensive than tap water (and four times as expensive as gasoline!).¹⁵

Bottled Water Is Not Better Water

Contrary to the industry's marketing, bottled water is not necessarily a purer, safer, healthier alternative to tap water.¹⁶ The federal government requires more rigorous safety monitoring of municipal tap water than it does of

Fig. 1 • U.S. Retail Bottled Water by Source

SOURCE: Beverage Marketing Corporation data.

bottled water.¹⁷ Bottled water is usually no safer than tap water, and, in many cases, it can be less safe.¹⁸ Between 2002 and 2017, the Food and Drug Administration issued 35 bottled water recalls — averaging more than 2 annually — due to contamination from dangerous substances, such as bromate and arsenic (which may increase cancer risks), as well as the presence of *E. coli*, mold, pieces of plastic and milk allergens.¹⁹

Marketing Hype Targets Women, People of Color and Immigrants

Companies are promoting bottled water as a healthy alternative to sugary beverages.²⁰ This is paired with not-so-subtle suggestions that bottled water is superior to tap water. A Beverage Marketing Corporation executive stated that, “[bottled] water is both a tap water replacement and a refreshment beverage.... It was really one of the very first beverages to start to be consumed for health reasons.”²¹

Bottled water companies have honed their marketing to target lower-income groups, people of color and immigrant communities in the United States — especially Latina mothers, children and women generally.²²

Latino and African-American parents were more likely to buy bottled water than white parents, and they are dishing out more money on bottled water primarily because of perceived health benefits.²³ The industry also specifically targets Latino immigrants — despite admitting

that tap water is much cheaper and usually safer — in part by exploiting bottled water as part of the immigrant “heritage” of coming from places with less access to clean drinking water.²⁴ Nestlé aggressively promotes its Pure Life brand to its target audience of recent Latin-American immigrants, particularly mothers.²⁵

The Dirty Environmental Footprint of Bottled Water

Water bottlers threaten the environment near their bottling facilities: they deplete community water supplies either by pumping groundwater or by taking municipal water at a significant discount. Bottlers’ groundwater pumping operations can harm the local environment as well as natural resources that communities rely on for drinking water, farming, recreation and other uses.²⁶ Government officials have reported that large-scale groundwater extraction, such as for water bottling plants, can reduce the availability of local groundwater and surface water supplies to the detriment of the natural resources that depend on them.²⁷

The plastic bottles mostly end up as litter and in landfills. In 2016, 4 billion pounds of plastic was used for bottled water production — enough to more than fill the Empire State Building.²⁸ In 2015, the majority of plastic water bottles — an estimated 70 percent — were not recycled; these bottles ended up in landfills, as litter or incinerated, amounting to over 4 billion pounds of waste.²⁹

Much of this plastic waste ends up in our oceans and surface waters. Between 1960 and 2015, about 18 trillion pounds of plastic was produced globally, and 79 percent of it (about 14 trillion pounds) accumulated in landfills or the natural environment, including in our oceans.³⁰ In the Pacific Ocean, a “plastic soup” dubbed the Great Pacific Garbage Patch circulates among four ocean currents — it is the world’s largest dump.³¹ This plastics pollution damages ocean ecosystems and marine life.³²

Plastics, Energy and Fracking

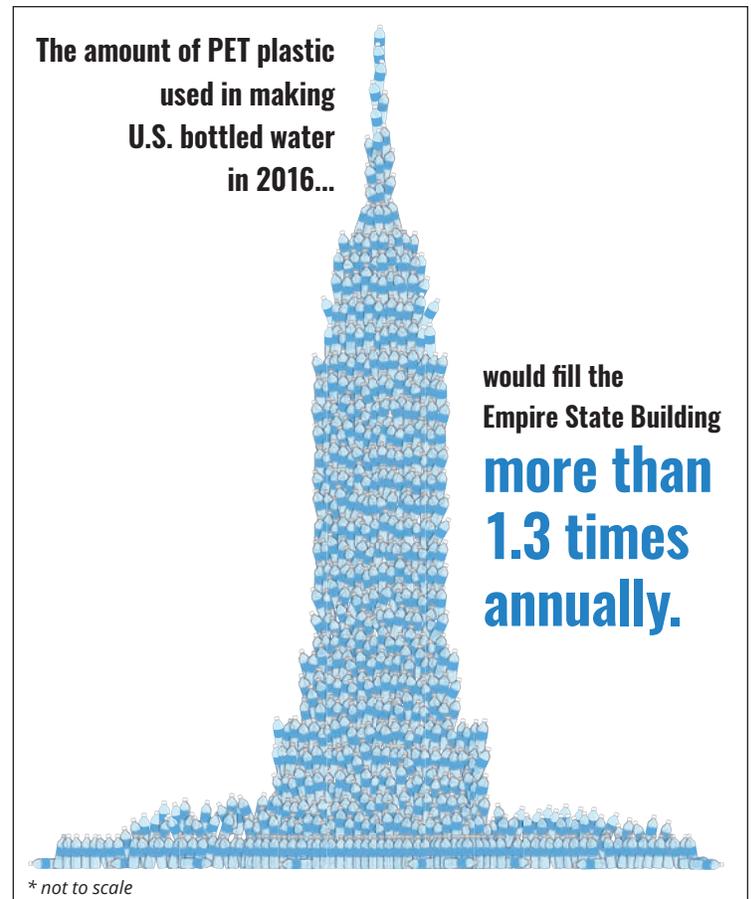
It takes a lot of energy and fossil fuels — mostly from fracked gas — to make billions of pounds of plastic water bottles annually.³³ Bottled water is 1,100 to 2,000 times as energy intensive as the treatment and distribution of tap water.³⁴ The 2016 U.S. bottled water consumption used the energy input equivalent of about 64 million barrels of oil.³⁵ That’s equivalent to the annual greenhouse gas emissions from nearly 2.5 million passenger cars — nearly 11.5 million metric tons of carbon dioxide emissions.³⁶

Take Back the Tap

Federal, state and local governments need to protect the quality and integrity of our water sources so that everyone has access to safe, affordable tap water that they trust. Our public drinking water systems desperately need federal investment, but federal funding for water and sewer systems is decreasing. Reliance on bottled water may make people less inclined to support public investment in municipal water systems.³⁷

While there has been growing recognition of the need for investment in the United States’ aging water infrastructure, how we will finance it is less clear. Plans that rely on

privatization including public-private partnerships, such as those advanced by the Trump administration, are not acceptable. Private control of our water systems will lead to rate hikes, job loss, lack of accountability and poor service. Congress must dedicate long-term public funding for fixing our drinking water and wastewater infrastructure so that communities across the United States can keep or make their tap water clean, safe and affordable.



SOURCE: Food & Water Watch calculation from Gleick and Cooley, U.S. EPA, U.S. EIA, Beverage Marketing Corporation, Empire State Building and plastics industry data.

Endnotes

- Mulier, Tom. “Nestlé Waters ‘optimistic’ sales will rebound on emerging markets growth.” *Bloomberg*. June 21, 2010; de Lafuente, Della. “Nestlé pitches Pure Life to U.S. Hispanics.” *Brandweek*. August 6, 2008; Corporate Accountability International. “Tapping Congress to Get Off the Bottle.” February 2011 at 4; Hu, Zhihua et al. “Bottled water: United States consumers and their perceptions of water quality.” *International Journal of Environmental Research and Public Health*. Vol. 8. February 21, 2011 at 565 to 566 and 574; Barsamian, David. “Maude Barlow interview.” *The Progressive*. December 2008.
- U.S. Government Accountability Office (GAO). “Bottled Water: FDA Safety and Consumer Protections Are Often Less Stringent Than Comparable EPA Protections for Tap Water.” (GAO-09-610.) June 2009 at 2 and 6 to 8.
- Food & Water Watch calculation based on data from: Gleick, P. H. and H. S. Cooley. “Energy implications of bottled water.” *Environmental Research Letters*. Vol. 4, No. 1. 2009 at 1, 3 and 6; Beverage Marketing Corporation (BMC). [Press release]. “Bottled water becomes number-one beverage in the U.S.” March 9, 2017 at 2 to 3
- Food & Water Watch calculation based on data from: Gleick and Cooley (2009) at 3 and 6; National Association for PET Container Resources (NAPCOR) and The Association of Plastic Recyclers (APR). “Postconsumer PET Container Recycling Activity in 2015.” October 31, 2016 at 3; BMC (March 9, 2017).
- BMC. [Press release]. “Bottled water sustains.” May 2014 at 2 to 3; BMC. [Press release]. “Bottled water continues growing, new report from

Take Back the Tap: The Big Business Hustle of Bottled Water

- Beverage Marketing Corporation shows." July 2015 at 2 to 3; BMC. [Press release]. "Bottled water growth accelerates, new report from Beverage Marketing Corporation shows." August 15, 2016 at 2 to 3; BMC. [Press release]. "Bottled water becomes number-one beverage in the U.S." March 9, 2017 at 2 to 3; BMC. "U.S. Bottled Water Through 2019." July 2015 at 250.
- 6 BMC (July 2015) at 3, 5 and 19.
- 7 BMC. [Press release]. "The U.S. liquid refreshment beverage market accelerated again in 2016." April 19, 2017.
- 8 BMC (March 9, 2017).
- 9 *Ibid.* at 3; BMC. [Press release]. "Reinvigorated bottled water bounces back from recessionary years, new report from Beverage Marketing Corporation shows." May 2012.
- 10 Mendelson, Seth. "The boon of bottled water." *Grocery Headquarters*. January 3, 2017.
- 11 "2017 State of the Industry Almanac." *Grocery Headquarters*. April 2017 at 74; Coca-Cola Co. U.S. Securities and Exchange Commission. Form 10-K. Fiscal year ending December 31, 2007 at 57.
- 12 BMC (July 2015) at 280 to 283.
- 13 Food & Water Watch. "The State of Public Water in the United States." February 2016 at 7 and 12 to 13.
- 14 *Ibid.* at 6.
- 15 Food & Water Watch calculation, based on AAA's Daily Fuel Gauge Report. Available at <http://gasprices.aaa.com>. Accessed June 23, 2017; Food & Water Watch (2016) at 7 and 12 to 13; Krauss, Clifford. "Drivers head into summer with a gift at the gas pump." *New York Times*. June 9, 2017.
- 16 GAO (2009) at 1; Hu et al. (2011) at 566.
- 17 GAO (2009) at 2 and 6 to 8.
- 18 Gorelick, M. H. et al. "Water use and acute diarrhoeal illness in children in a United States metropolitan area." *Epidemiology & Infection*. Vol. 139. 2011 at 295, 297, 298 and 300.
- 19 GAO (2009) at 12; U.S. Environmental Protection Agency (EPA). "National Primary Drinking Water Regulations." (EPA 816-F-09-004.) May 2009; U.S. Food and Drug Administration (FDA). Recall F-3256-2015. September 2, 2015; FDA. Recall F-1949-2014. April 23, 2014; FDA. Recall F-2319-2014. June 13, 2014; FDA. Recall F-2320-2014. June 13, 2014; FDA. Recall F-2958-2015. June 19, 2015; FDA. Recall F-1179-2017. December 15, 2016; FDA. Recall F-1333-2017. January 4, 2017; FDA. Recall F-1950-2014. April 23, 2014; FDA. Recall F-0615-2015. October 31, 2014; FDA. Recall F-2789-2015. May 8, 2015; FDA. Recall F-0611-2015. November 24, 2014; "Kroger recalls bottled water for babies." WRCB-TV (TN). July 6, 2017; FDA. [Press release]. "Bottled water recall: Recall lots include water distributed during recovery effort in Clinton." May 4, 2011.
- 20 Mendelson (2017).
- 21 Malcolm, Hadley. "Bottled water about to beat soda as most consumed beverage." *USA Today*. June 8, 2016.
- 22 Arthur, Rachel. "'Huge potential' in children's bottled water category." *Beverage Daily*. October 19, 2016; Mintel. "Better-for-you movement leads to record-high US bottled water sales in 2015." February 23, 2016; "Nestlé Pure Life launches loyalty program and shares valuable health tips with Latina mothers." *Nestlé Pure Life*. July 21, 2014; Newman, Andrew. "Nestlé adds premium brand in still water arena." *New York Times*. June 9, 2013.
- 23 Gorelick, Marc H. et al. "Perceptions about water and increased use of bottled water in minority children." *Archives of Pediatrics & Adolescent Medicine*. Vol. 165, Iss. 10. October 2011 at 930 to 931.
- 24 Mintel (2017) at 21; BMC (July 2015) at 288 to 289.
- 25 *Nestlé Pure Life* (2014); BMC (July 2015) at 288 to 289.
- 26 Hall, Noah D. Testimony on Assessing the Environmental Risks of the Water Bottling Industry's Extraction of Groundwater. Domestic Policy Subcommittee, Oversight and Government Reform Committee, U.S. House of Representatives. December 12, 2007 at 8 and 9.
- 27 GAO (2009) at 26 to 27.
- 28 Food & Water Watch calculation based on data from: Gleick and Cooley (2009) at 1, 3 and 6; BMC (March 9, 2017); Empire State Building. "Empire State Building Fact Sheet." April 9, 2014; Azo Materials. "Polyethylene Terephthalate Polyester (PET, PETP) – Properties and Applications – Supplier Data by Goodfellow." Available at <https://www.azom.com/article.aspx?ArticleID=2047>. Accessed November 2017; MatWeb. "Overview of materials for Polyethylene Terephthalate (PET), Unreinforced." Available at <http://www.matweb.com/search/datasheettext.aspx?matguid=a696bdcdf6f41dd98f8eec3599eaa20>. Accessed November 2017; British Plastics Federation. "Polyesters (Thermoplastic) PETP, PBT, PET." Available at <http://www.bpf.co.uk/plastipedia/polymers/Polyesters.aspx>. Accessed November 2017.
- 29 NAPCOR and APR (2016) at 3; GAO (2009) at 23.
- 30 Fears, Darryl. "There's literally a ton of plastic garbage for every person on Earth." *Washington Post*. July 19, 2017; Geyer, Roland et al. "Production, use, and fate of all plastics ever made." *Science Advances*. Vol. 3, Iss. 7. July 19, 2017 at 1.
- 31 Harse, Grant A. "Plastic, the Great Pacific Garbage Patch, and international misfires at a cure." *UCLA Journal of Environmental Law and Policy*. Vol. 29, Iss. 2. 2011 at 331 to 362; Grant, Richard. "Drowning in plastic: The Great Pacific Garbage Patch is twice the size of France." *The Telegraph* (U.K.). April 2009.
- 32 Kinver, Mark. "Video captures moment plastic enters food chain." *BBC*. March 11, 2017; Rochman, Chelsea et al. "Ingested plastic transfers hazardous chemicals to fish and induces hepatic stress." *Scientific Reports*. Vol. 3, Iss. 3263. November 21, 2013 at 1.
- 33 Grady, Caitlin and Tamim Younos. "Bottled water technology and its global ramifications: An overview." *International Water Technology Journal*. Vol. 2, No. 2. June 2012 at 187; Sax, Leonard. "Polyethylene terephthalate may yield endocrine disruptors." *Environmental Health Perspectives*. Vol. 118, Iss. 4, April 2010 at 445; U.S. Energy Information Administration (EIA). "Ethane production expected to increase as petrochemical consumption and exports expand." April 1, 2016; "Energy upside: The surge of ethane." *Oil & Gas 360*. April 1, 2016; Ghanta, Madhav et al. "Environmental impacts of ethylene production from diverse feedstocks and energy sources." *Applied Petrochemical Research*. Vol. 4, Iss. 2. 2014 at 167; American Chemistry Council, Economics & Statistics Department. "Plastic Resins in the United States." July 2013 at 14 and 15. Food & Water Watch calculation based on data from American Chemistry Council (2013) at 15; U.S. EIA. Monthly Energy Review. Table A2. Approximate Heat Content of Petroleum Production, Imports, and Exports. May 2016; U.S. EIA. U.S. Heat Content of Natural Gas Consumed. BTU per Cubic Foot. May 31, 2016; U.S. EIA. "Performance Profiles of Major Energy Producers 2009. Oil and Natural Gas Production." 2009 at 15; Society of Petroleum Engineers. "Unit Conversion Factors." Available at <http://www.spe.org/industry/unit-conversion-factors.php>. Accessed June 15, 2016.
- 34 Gleick and Cooley (2009) at 6.
- 35 Food & Water Watch calculation based on data from: Gleick and Cooley (2009) at 3 and 6; NAPCOR and APR (2016) at 3; BMC (March 9, 2017).
- 36 Food & Water Watch calculation based on data from: Gleick and Cooley (2009) at 3 and 6; NAPCOR and APR (2016) at 3; BMC (March 9, 2017); EPA "Greenhouse Gas Equivalencies Calculator" (September 29, 2017); U.S. EIA (May 10, 2017).
- 37 Barsamian (2008); Barlow, Maude. *Blue Covenant: The Global Water Crisis and the Coming Battle for the Right to Water*. New York: The New Press. 2007 at 2, 93 and 135.