

Bottled Water and Beyond
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In early summer 2019, news arrived at the Olympia Food Co-op that Cowlitz tribe members and residents of Randle, Washington had taken a stand to stop the Crystal Geyser Roxane (CG Roxane LLC) proposed water bottling facility on the Cowlitz river. At that time, the Co-op was still carrying Crystal Geyser Alpine Spring Water, a product of CG Roxane LLC. The Eastside store immediately stopped carrying it in solidarity with the Lewis County Water Alliance—the citizens’ group comprised of Cowlitz tribe members and Randle residents. The Westside store took a little longer trying to identify viable alternatives. The question in the minds of the Westside managers was “how can we avoid moving from one undesirable product to another?” While we wanted to show solidarity with the Lewis County Water Alliance, we wanted to make sure that we were not complicit with negative impacts of other water bottling operations at other locations, either.

It is easy to say that bottled water is evil and the Co-op should not carry it at all, especially water in plastic bottles. The comments that the Co-op received over Facebook in Fall 2019 showed large support for stopping the sale of bottled water.¹ However, the reality is that bottled water SELLS. The Olympia Food Co-op Westside store alone sold 176 one-gallon bottles of Crystal Geyser Alpine Water between January and July 2019. In 2020, we have sold 253 one-gallon jugs of Mountain Mist Spring Water between January and May. These numbers do not include sales of other bottled waters.

Good sales usually means that there is a steady demand among our members for that product. Consumers in America are reported to purchase bottled water for various reasons, among them, a healthier choice than sodas, safer water than municipal tap water, being influenced by enticing images due to clever marketing, and convenience.² Nationwide in the US, bottled water sales exceeded that of soft drinks for the first time in 2016, and the trend continues.³ In 2018, 13.85 billion gallons of bottled water were sold in the United States.⁴

As a grocery co-manager at the westside store, I have witnessed some members purchase bottled water for other reasons. Some have adverse health reaction to tap water. Others point out the physical challenge of filling containers with purified water at the store. Yet some others have particular sensitivity to the taste that even purified water is intolerable. Knowing that, how could we self-righteously judge them for buying bottled water? I cannot.

At the Co-op, our desire to support Lewis County Water Alliance and to reduce the use of plastic containers in general, eventually led to discontinuing the sale of all bottled

¹ OFC Eco Planning Committee, October 1, 2019

² for instance see p.110, Feldman; p.20, 150 Salzman; and 20/20 video

³ p.103, Siegel

⁴ <https://www.statista.com/topics/1302/bottled-water-market/>

water in single-use plastic bottles in early 2020. Yet, there was still a nagging question: Is avoiding plastic single-use bottled water good enough?

As I researched, I discovered that the issue of bottled water is surrounded by a lot of misinformation. For example, contrary to the common belief that bottled water tastes better than tap water, multiple blind-tasting tests show that consumers often cannot tell the difference or even prefer the taste of the tap water.⁵ Or even without labeling them as “mis”information, the issue is so multifaceted that it is hard to know what some claims really mean. For instance, can we consider certain containers sustainable only because they can be recycled in many locales? The information that matters is often not found easily and I had to pay attention to what is missing as much as what is stated. As much as I wish I could write this article with certainty and recommend good bottled water to buy, it is not that clear cut. All I can do here is to present some pointers that members might take into consideration when (or if) purchasing bottled water.

Types of water

The Safe Drinking Water Act defines bottled water as a food product. Much like other food products, the Food and Drug Administration (FDA) has jurisdiction over bottled water. FDA defines bottled water as “water that’s intended for human consumption and sealed in bottles or other containers with no added ingredients, except that it may contain a safe and suitable antimicrobial agent.”⁶ Spring water, mineral water, well water, and artesian well water are four types of bottled water under this definition.⁷ In addition, purified (or sometimes even untreated) municipal tap water, such as distilled water, is considered bottled water. What is not considered bottled water is flavored and unflavored sparkling water, such as Ever & Ever and La Croix. They are considered soft drinks.

The different types of bottled water become important when considering the environmental impact and quality. From the environmental stand point, pumping out ground water seems to have more impact on the aquifer than surface water or spring water⁸, which by definition flows out of the ground naturally.⁹ Implications on water quality will be discussed later under “Quality and Safety.”

Source

Many readers probably already know that the photos and/or illustrations of mountains on the container do not mean the water came from those mountains. It is also known that product names, such as “Poland Spring,” do not indicate which specific springs the

⁵ See examples cited in p.182 Saltzman, such as ABC’s 20/20, Good Morning America

⁶ <https://www.fda.gov/consumers/consumer-updates/bottled-water-everywhere-keeping-it-safe>

⁷ *ibid*

⁸ https://www.usgs.gov/special-topic/water-science-school/science/groundwater-storage-and-water-cycle?qt-science_center_objects=0#qt-science_center_objects

⁹ p.179 Saltzman

water came from. Indeed finding out the exact source of the bottled water from information on the containers or product websites can be challenging because they often give general descriptions like “at the root of Mount Shasta” or “near the 850,000 acre Sumter National Forest.” But why is it important to know the exact location of the source?

A few reasons. First, transparency. Consumers have the right to know if the water comes from multiple spring sources or tap water, how the water is treated (or not), or how the water source is protected. Some believe company transparency is a good indication of a company’s trustworthiness.

Second, the exact location could indicate potential ground water contamination. Factory cattle farming, conventional agriculture, and fracking in a nearby area could have adverse effects on the water quality. Or does it matter if the bottled water was welled in the middle of an industrial park? Consumers can make informed choices if they are given access to the information of water source.

Another reason to find out the source of the water is to avoid contributing to local water deprivation. We should know if the water is coming from a draught-stricken area or an area where their municipal water is unsafe. Whenever possible, it is a good idea to check if there is any dispute between the local residents and the bottling company. If we do not know where the water is coming from, we won’t be able to do the research.

Further, from the environmental standpoint of reducing carbon footprint, it is probably a good idea to choose water coming from somewhere closer to us than farther away. The shorter distance and travel time would also reduce the risk of water contamination during the transportation. I will discuss more on this in the next section.

Quality and Safety

As mentioned earlier, the quality of the bottled water is supposed to be monitored and regulated by the FDA. However, there are many reasons why the water we find in the bottles could be less than optimal in quality and safety.

First, FDA regulations apply only to those products that are sold across state lines, which accounts only for about 30% of bottled water in the market.¹⁰ Even for those 30%, with 2 staff at FDA overseeing more than 700 brands of bottled water, the actual number of bottled water monitored is likely minuscule.¹¹

Second, FDA regulations only set the acceptable *upper limit* of ninety-one contaminants, including coliform bacteria, arsenics, lead, and benzene.¹² Some bottled water manufacturers claim that their spring water is pure and clean because it is filtered through the natural filter of the earth’s layers. To that claim, James Salzman, author of

¹⁰ <https://www.nrdc.org/experts/adrianna-quintero/bottled-water-still-pure-hype>

¹¹ p.106, Siegel

¹² p.104, p.107, Siegel

the book *Troubled Water*, warns that “many things in nature that are water soluble are not good for us. [Also] teeming numbers of microorganisms live in water”.¹³ One study by an environmental group, NRDC, reported that 22 percent of more than a thousand bottled waters tested contained more than acceptable levels of chemicals.¹⁴

Many information sources sensationally report that quite a few bottled waters are indeed filtered tap water.¹⁵ It is upsetting to know that the tap water that costs \$0.01 per gallon is sold at \$1.33 after filtration.¹⁶ Yet, when it comes to the safety, filtered tap water is more strictly regulated than spring water. It is ironic that the very chemical agent, chlorine, that many shoppers try to avoid, was what made tap water safe in the US. The safe tap water reduced the sale of bottled water in the early-to-mid 1900s.¹⁷

This is not to say that all spring water is unsafe or that tap water has better quality. However, just like we do not drink any spring water along our hiking trails, we need to be aware that “fresh water from the ground” is not synonymous with clean and safe drinking water.

Lastly, even when water at the source is of high quality, and the source is protected, the water still faces a risk of contamination during the transportation and storage. The chemical bleaching from the container into the water increases as it travels for a long time. Further more, contamination could occur if the water is stored in high-temperature environments.¹⁸ This is another reason why the distance between the source as well as the container material matter.

Container

When plastic bottles were first introduced, they were considered a revolutionary solution. Unlike glass they won't break easily, they are light, and “cheap” to produce. As environmental and health issues around plastic—from pollution during production, chemical contamination of contents during use, and post-usage disposal—become more publicly known, many bottled water manufacturers are moving away from plastic containers. Aluminum, paper, and plant-based plastics are some of the alternative materials for the containers, each claiming “environmentally friendly,” “sustainable,” “renewable,” “compostable,” and so forth. When looked closely, once again it is not that simple. For instance, the leading paper container, Tetra Pak, is actually made up 74% of paperboard

¹³ p.75, Siegel

¹⁴ <https://www.nrdc.org/stories/truth-about-tap>

¹⁵ for example ABC 20/20 Bottled Water vs Tap Water; and Consumer Report “How Coke and Pepsi Make Millions From Bottling Tap Water, as Residents Face Shutoffs,” <https://www.consumerreports.org/bottled-water/how-coke-and-pepsi-make-millions-from-bottling-tap-water-as-residents-face-shutoffs/>

¹⁶ <https://www.consumerreports.org/bottled-water/how-coke-and-pepsi-make-millions-from-bottling-tap-water-as-residents-face-shutoffs/>

¹⁷ p.100, Salzman; and <https://foodrevolution.org/blog/chlorine-water-harmful/>

¹⁸ p.260, Siegel

(none of which is recycled from post consumption Tetra Pak,) 22% polyethylene (plastic!), and 4% aluminum foil.¹⁹ Furthermore, biodegradable bioplastics are not recyclable in many cities, including Olympia, and will break down only in a high-temperature industrial composting facility, not in your compost bin.²⁰ While it still seems a good idea to avoid single-use plastic bottles, it is not that simple to pick the best alternative container.

Manufacturer

Lastly, I highly recommend that consumers run a background check on the manufacturers, in particular their affiliation to multinational corporations. For instance, Crystal Geyser Water Company (a related but separate entity from CG Roxane LLC) is an affiliate of Otsuka Holdings whose parent company is Otsuka Pharmaceutical, a Japan-based multinational corporation. It is important because the issue of ownership is a matter of control. When water is becoming more and more scarce with climate change, and treated as a global commodity much like oil, consumers should be aware of who owns and controls the water.

At the time of this writing (June, 2020), Olympia Food Co-op carries nine bottled waters. The following shows how those products fare with the above-mentioned pointers:

Product	Type	Source	Container	Mnufactular
The Mountain Valley	spring water	Quachita Mountains, Garland County, Arkansas, USA	glass	Clear Mountain Spring Water Company (USA) affiliate of DS Services of America INC under Cott Corporation
Voss	municipal water	Vatnestrøm, Iveland, Norway	glass	Reignwood Group (China) affiliate of DS Services of America INC under Cott Corporation
Castle Rock Water	spring water	Dunsmuir CA, USA	glass	Castle Rock Water Company (USA)
Gerolsteiner	mineral water	Gerolstein, Germany	glass	Gerolsteiner Bremen GmbH (Germany)
Boxed Water is Better	municipal water	Lindon, UT, USA (multiple sources)	aseptic	Boxed Water is Better LLC.(USA)
Proud Source	spring water	MacKey, Custer County, ID, USA	aluminum	Proud Source Water (USA)
Flow	spring water	Augusta County, VA, USA (multiple locations)	Tetra Pak aseptic	Flow Beverages Inc (Canada)

¹⁹ <https://draftingutopia.com/2018/04/19/the-tetra-pak-versus-plastic-glass-containers/>; and <https://www.treehugger.com/corporate-responsibility/in-what-world-can-you-call-tetra-pak-green.html>

²⁰ <https://www.packagingdigest.com/sustainable-packaging/how-sustainable-are-biodegradable-and-plant-based-plastics-2017-05-30>

Product	Type	Source	Container	Mnufactular
Just Water	spring water	Glen Falls, NY, USA (multiple locations in the US and Europe)	Tetra Pak plant- based plastic	Just Goods Inc. (HQ in Holland, MI, USA)
Mountain Mist	spring water	Spanaway, WA, USA	high density polyethylene (plastic)	Mountain Mist (USA)

Protecting Washington’s Water

Let us go back to where we started with this article. The Co-op’s decision to stop carrying single-use bottled water in plastic containers was propelled by the desire to support Lewis County Water Alliance’s effort to stop CG Roxane’s proposed bottling facility. The Lewis County Water Alliance’s goal, however, was to further protect their water and rural environment. On February 24, 2020, their efforts bore fruit as Lewis County Board of Commissioners voted to amend Chapter 17.10 of the Lewis County Code, prohibiting the extraction of water for commercial bottling purposes.²¹

At the state level, on January 14, 2020, the Committee on Agriculture, Water, Natural Resources & Parks (Senators Carlyle, Braun, Van De Wege, Rolfes, Nguyen, Saldaña, Das, Billig, and Hasegawa) introduced the bill SB6278 “Concerning water withdrawals for commercial bottled water production” in the Washington State Senate. The bill, which originally stated “any use of water for the commercial production of bottled water is deemed to be detrimental to the public welfare and the public interest,”²² was clearly intended to protect Washington’s ground and surface water from commercial bottling for good.

The bill passed the Senate with minor amendment and went to the House. In the House, where water bottling companies lobbied heavily, it was amended to protect only surface water. With that, what could have been the ground breaking bill to protect water statewide was considered dead. While Water Alliance was successful in protecting Cowlitz River basin, Washingtonians unfortunately failed to be a national leader in protecting their water from commercial bottling operations.²³

Water as Basic Human Rights

²¹ http://www.chronline.com/news/lewis-county-leads-bottled-water-battle/article_af5be0a6-576b-11ea-b001-f3573cdf5d10.html

²² <http://lawfilesexst.leg.wa.gov/biennium/2019-20/Pdf/Bills/Senate%20Bills/6278.pdf#page=1>

²³ <https://www.foodandwaterwatch.org/news/washington-state-committee-fails-to-stop-water-bottle-extraction>

On July 28, 2010, the United Nations General Assembly adopted a resolution declaring access to clean and safe water as a basic human right.²⁴ Often times, this declaration is used as the foundation to argue against bottled water across the board.²⁵ The argument is that water should not be considered a commodity and bottled water — the epitome of the commodification— must be prohibited. Respecting the spirit of the declaration, yet taking a slightly different angle, I wonder what is the role of the Olympia Food Co-op in making desired water more acceptable to the members? The Co-op already offers a reverse osmosis water filter system and BPA-free water containers at both stores. If that is not meeting the needs of the members, what else is needed? In addition to choosing the bottled water wisely, the Co-op might have to consider providing service that makes it easier for the members to take filtered water home. Or can someone perhaps go fetch water from Olympia's artesian well for minimal fee? Swimming in the murky water of bottled water issues, creative solutions, like so many other areas of life, might need to be called forth.

Selected References:

Books:

Barlow, Maude. 2013. *Blue Future: Protecting Water for People and the Planet Forever* — Monde Barlow is the world leading advocate for the water as basic human rights.

Feldman, David Lewis. 2012. *Water* — Good resource for the basics of drinking water from global perspective.

Salzman, James. 2013. *Drinking Water: A History* — Historical perspective on drinking water with focus on the USA. Some surprising facts about bottled water long before the modern popularity.

Siegel, Seth M. 2019. *Troubled Water*. — Great resource on the safety of drinking water, municipal and bottled.

Videos:

ABC 20/20 Bottled Water vs Tap Water.
<https://www.youtube.com/watch?v=m3tmdg0Oh7o>

Flow: For the Love of Water. official trailer
<https://www.youtube.com/watch?v=LGd9D4J0lag>

Tapped. <https://www.youtube.com/watch?v=dzntuXdE8dY\>

The Story of Bottled Water. <https://www.storyofstuff.org/movies/story-of-bottled-water/>
— also on the Story of Stuff Project website are three very informative short documentary videos on water.

²⁴ <https://www.unwater.org/water-facts/human-rights/>

²⁵ for instance Barlow

Websites:

“Beverage Container Showdown: Plastic vs. Glass vs. Aluminum,” Lauren Murphy, Earth 911, March 27, 2019. <https://earth911.com/living-well-being/recycled-beverage-containers/>

“Bill Preventing Commercial Water Extraction Dies in House,” Colton Dodgson, The Daily Chronicle, May 13, 2020, http://www.chronline.com/news/bill-preventing-commercial-water-extraction-dies-in-house/article_6a7db46a-6589-11ea-a71e-8358aff452c5.html

“How sustainable are biodegradable and plant-based plastics?,” Tom Szaky, Sustainable Packaging, May 30, 2017, <https://www.packagingdigest.com/sustainable-packaging/how-sustainable-are-biodegradable-and-plant-based-plastics-2017-05-30>

“Human Rights to Water and Sanitation,” UN Water, <https://www.unwater.org/water-facts/human-rights/>

“In What World Can You Call Tetra Pak Green?,” Lloyd Alter, Tree Hugger, October 28, 2009, <https://www.treehugger.com/corporate-responsibility/in-what-world-can-you-call-tetra-pak-green.html>

“Lewis County Leads Bottled Water Battle,” Colton Dodgson, The Daily Chronicle, February 24, 2020, http://www.chronline.com/news/lewis-county-leads-bottled-water-battle/article_af5be0a6-576b-11ea-b001-f3573cdf5d10.html

“Plastic from Plants: Is It an Environmental Boon or Bane?,” David Biello, Scientific America, October 26, 2010, <https://www.scientificamerican.com/article/is-plastic-from-plants-good-for-the-environment-or-bad/>

“Tetra Pak v Plastic Bottles Water: Which is Better for the Environment?,” Leon Kaye, The Guardian, May 10, 2011, <https://www.theguardian.com/sustainable-business/tetra-pak-versus-plastic-bottles-water>

“The Tetra Pak Versus Plastic & Glass Containers,” Laura Anaya, Drafting Utopia, April 19, 2018, <https://draftingutopia.com/2018/04/19/the-tetra-pak-versus-plastic-glass-containers/>

“Washington State Committee Fails to Protect Public Water from Bottled Water Extraction,” The Food and Water Watch, February 28, 2020, <https://www.foodandwater-watch.org/news/washington-state-committee-fails-to-stop-water-bottle-extraction>

Washington State Legislature. SB 6278 Concerning water withdrawals for commercial bottled water production. <https://app.leg.wa.gov/billsummary?BillNumber=6278&Initiative=false&Year=2019>