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Favorite other activities- Community Service working with Sea of No Plastic, Arts and Ideas of New Haven, Trashion Fashion, local river and beach clean-ups. As AP art student, I created series of artworks to bring awareness to the dangers of single-use plastics. Soon will be displaying a painting that features plastic water bottle pollution at Moon Rise Cafe in North Haven.

The Impact of Bottled Water on the Environment and the Water Supply

Drinking water from a bottle sounds healthy and simple, but a closer analysis reveals a more complicated story. There are three main facts to consider while weighing the environmental consequences of the extremely popular habit of using bottled water. The first is that consumers demand millions of bottles of water daily, requiring lots of fossil fuels and toxic chemicals to be used in the process. The second is that more and more groundwater supplies are being exploited due to increased demand. Third, and perhaps most significant, the fact that water bottles are made of plastic which adds a complex set of environmental problems because they are not biodegradable.

To begin with, plastic bottles are a fossil fuel product, typically using about a bottle and half's worth of petroleum to create a single bottle. This, in addition to the presence of other toxic additives, such as bisphenol-A (BPA), antimony and phthalates, should alarm any consumer. These chemicals are carcinogens and endocrine disruptors, and have been shown to leach out of the bottles into the drinking water. A recent study has also found that 93% of bottled water contains micro-plastics, small pieces of plastic that evade water filtration, and can be created by the pieces falling off the water bottle's cap and into the bottle. Another fossil fuel connection is the fact that bottled water is heavy to transport and distribute. Millions of gallons of diesel and gasoline are burned yearly by the trucking and shipping industries to bring this product to market, leaving an unnecessary and large carbon footprint.

Companies who produce bottled water get the water mostly by tapping into natural water resources at almost no cost to the company. The water is then sold at prices about one thousand times greater than the average person would pay for tap water from their own home. Besides taking advantage of consumers this way, companies take advantage of clean water available from underground aquifers. Some companies continue to take water from areas that have a history of suffering long droughts, such as in California, causing harmful imbalances to affected ecosystems, as well as depleting public water supplies.

Still, the most severe impacts of plastic pollution are caused by single-use plastics, such as water bottles, especially when they enter the watershed leading to the ocean. To understand why plastic creates unique problems for the environment, it is important to know that plastics do not biodegrade, but do become degraded into smaller and smaller pieces. This happens through photo-degradation (sunlight) and by mechanical forces, like waves and contact with rocks and sand. While plastic is in the water, it tends to absorb other chemicals that are

polluting the water, such as pesticides or PCB's. The longer the plastic remains in the water, the more toxins the pieces can absorb. This is important to consider, as plastic pieces are eaten accidentally by creatures that mistake it for food. In this way, the toxic plastics enter into the food web. Scientists are now studying how these toxins bioaccumulate and biomagnify up through the food web.

Plastic water bottles have been viewed as a convenient solution to make our lives easier, but only for the moment we use it. It may be easy to make and inexpensive to use, but there is truly a hidden cost. The use of fossil fuels has been proven to contribute to climate change, and is known to cause long-term health issues. Fresh, clean water, considered by most to be a basic human right, is being drained away from our communities and parklands by corporations that have created a sneaky way to pump it out and sell it back to us for enormous profit. The profound damage that plastic pollution continues to cause to the watersheds, oceans and wildlife has only recently begun to be realized. We need a solution that either eliminates plastic waste, or replaces plastic with a biologically safe alternative in order to stop the destruction of our environment.