

# Bottled Water Blues

## Reducing the Harm Bottled Water Extraction Causes to Local Communities

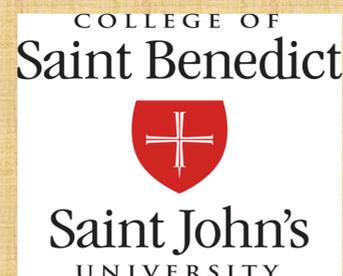
Environmental Studies 395: Senior Research Seminar  
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### ABSTRACT

Over the past 30 years the U.S. has witnessed a 1,500 % increase in the consumption of bottled water, rising from 605 million gallons in 1980 to a projected 9,500 million gallons in 2010. Current estimates suggest that local underground aquifers supply as much as 60 – 75 % of this demand. Such practices as this lead to questioning the effects extraction has upon local communities and whether policy solutions exist for limiting those effects. These questions are analyzed through the use of four case studies. Results show that extraction harms local communities by lowering water tables, decreasing water clarity and quality, exerting additional pressure on plant and animal species, as well as permitting industry intrusion in rural areas. The best method for limiting extraction is a revision of state and local water laws currently in place, specifically those laws addressing permits regarding well-usage.

### METHODS

Research regarding bottled water extraction focused on four case communities: Fryeburg, Maine; McCloud, California; Mecosta, Michigan; and Henderson County, Texas. These communities were selected through a combination of recognition on a national scale, location, and variability in policy implementations to address the problem. Sources for the case studies include newspaper articles, media coverage, political websites, and court documents. Information regarding policy solutions was obtained through analyzed policy attempts of the case studies, as well as other communities who have dealt with or are currently dealing with extraction.

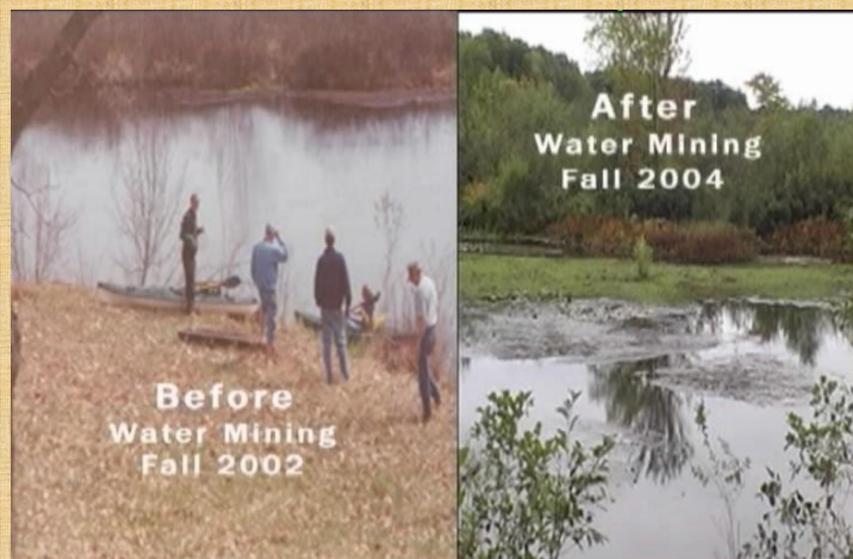


Howard Dearborn is a resident of Fryeburg, Maine who has been fighting Poland Springs ever since the company began extracting 225,000 gallons of water a day from local aquifers in 2004. To prove that Poland Spring's actions were impacting the ecosystem, Dearborn hired an independent hydrologist to assess water quality changes in Lovewell Pond. The hydrologist concluded that extraction was negatively impacting the pond as flow rates feeding it from other nearby water bodies were decreased. This led to higher phosphorus levels, which promoted greater weed and algae growth.  
Source: Fahrenthold, David A. "Bottlers, States, and the Public Slug It Out in Water War; Rights to Resource Are at Odds With Fears of Shortage," *Washington Post*, June 12, 2006.

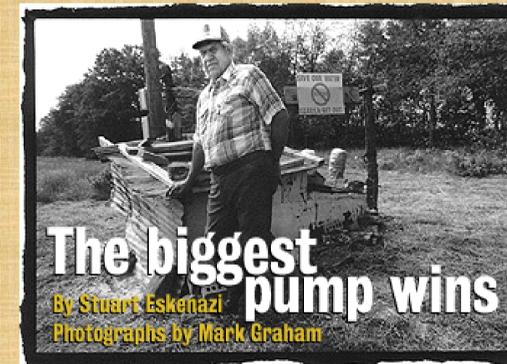


McCloud, California was set to become the site of Nestlé Waters North America's largest-ever bottling facility until local citizens learned that the company was planning to extract over 520 million gallons of water a year from their aquifers. They responded by forming the McCloud Watershed Council, and by sheer perseverance and effort forced Nestlé to withdraw its plans for the facility. This example proves that citizens' efforts can be enough to protect local water resources from extraction.  
Source: Editorial. "Water Wars: A Town Torn Apart by Nestlé." *Bloomberg Weekly*, April 16, 2008.

### CASE STUDIES



Dead Stream in Mecosta, Michigan; a site where over-extraction by water company Ice Mountain dropped the water table by two inches between 2002 and 2004. The company withdrew an average of 400 gallons per minute from local aquifers during this period, which was recorded to reduce stream flows in the area by 345 gallons per minute. This change in flow rate had a profound impact on the local environment which experienced reduced water clarity and quality, on top of making the area inaccessible to canoe use during certain intervals of the year.  
Source: Michigan Citizens for Water Conservation. <<http://www.savemewater.org/>>



Bart Sipriano is a resident of Henderson County, Texas whose well went dry after Ozarka Natural Spring Waters began extracting 90,000 gallons of water a day from local aquifers in 1996. Sipriano sued the company on account of their negligence, claiming that they had no right to remove such amounts of water from the ecosystem. The case eventually made its way to Texas's Supreme Court in 1999, where Ozarka won because of the state's pre-existing water law known as the 'rule of capture.' This law permitted Ozarka to extract as much water as possible from aquifers under their property, even if it drained neighbors' wells.  
Source: Eskenazi, Stuart. "The Biggest Pump Wins," *Dallas Observer*, November 19, 1998.

### RESULTS AND CONCLUSIONS

Bottled water extraction has been found to negatively impact local communities in the following ways:

- Causing a depletion of local aquifers by lowering water tables and surrounding water bodies (which is caused by extracting water at faster rates than it can percolate through the soil to refill excess space)
- Decreasing water quality and clarity by changing aquifer layout and composition
- Exerting additional pressure on plant and animal species by creating greater competition for resources
- Permitting industry disturbance upon small communities who are otherwise unaccustomed to corporate practices (such as increased traffic, noise pollution, etc.)

The best solution for addressing extraction on a local scale is to revise current water laws, particularly those required for well-owners. Citizens of local communities should undertake standard democratic procedure and move towards creating new ordinances that impose limitations on water extraction. Specifically these ordinances must forbid the sale of bottled water outside community boundaries, thus ensuring that any water extracted stays within local aquifers.

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