



## STUDENT RESEARCH REPORT:

### Broken Water Fountains Fuel Students' Addiction to Plastic Drink Bottles

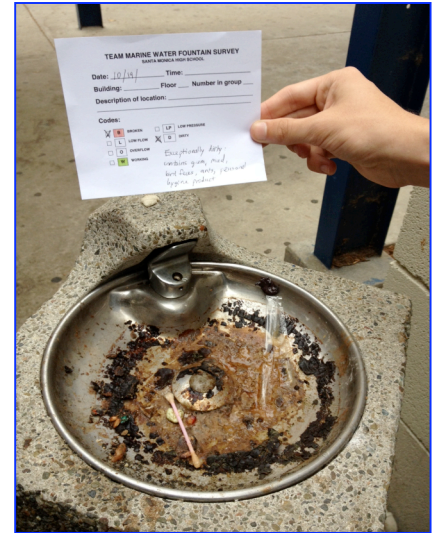
Results of Team Marine survey at Santa Monica High School show 80% of water fountains overflow, leak, or malfunction; 19% are completely broken and dispense no water

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SANTA MONICA, Nov. 26, Over the past several weeks, Team Marine has conducted a survey of all 68 water fountains at Santa Monica High School to determine how many of them function. The survey found that **80% of water fountains either overflow the basin, dispense an undrinkable trickle, or are broken entirely. 19% dispense no water.** Cleanliness appears to be a major issue as well, with **47% of all water fountains marked as containing debris, dirt, or trash.** Overall, broken and dirty water fountains impede access to clean, free, drinking water and cultivate a costly dependency on single-use plastic products.

Students surveyed water fountains using a student-designed system, which included an evaluation card for each water fountain on campus. The following codes were used: W (Working), B (Broken), O (Overflow), L (Low Flow), LP (Low Pressure), and D (Dirty/Debris). See Figure 2 below for the classification system used.

Students marked comments on evaluation cards with respect to cleanliness. For example, one comment written for a water fountain near the Student Cafeteria read, **"Exceptionally dirty, contains gum, mud, bird feces, ants, personal hygiene product"**. A choir room fountain was described as **"severely dirty, bird feces and caked on rust has not been removed."**



Drinking fountain contains gum, mud, bird feces, ants, and a Q-tip and has not been cleaned for some time.

Team Marine Water Fountain Classification System	
Every water fountain must be marked either <b>B (Broken)</b> or <b>W (Working)</b> , and then marked with any other code that applies.	
Water fountains marked <b>L (Low Flow)</b> , <b>O (Overflow)</b> , and <b>LP (Low Pressure)</b> are considered <b>working</b> . A classification of <b>D (Dirty)</b> can be given to <b>W (Working)</b> and <b>B (Broken)</b> water fountains.	
<b>B</b> Broken Non-functioning	<b>LP</b> Low Pressure Difficult to drink water or fill water bottle
<b>L</b> Low Flow No visible arc	<b>D</b> Dirty Dirt, debris, dust, grime, or food on faucet or in basin
<b>O</b> Overflow Spills out of basin	
<b>W</b> Working Water fountain is functioning (regardless of condition)	

The lack of functioning water fountains severely restricts students' ability to use reusable water bottles and encourages the purchase of single-use plastic ones, which are readily available on campus. If students cannot refill reusable water bottles because the drinking fountains broken or impossible to use, many will continue consume plastic bottled water.

The current study corroborates a similar Team Marine study conducted in 2011, which indicated 25% of water fountains completely broken. Despite varying methodology used in the two studies, the overall result is extremely similar: only 65-67% of water fountains can be drunk from, but still with limitations.

Functioning water fountains were a portion of the class-action lawsuit *Williams v. California* in 2000, when the State of California was sued over issues involving insufficient school facilities and textbooks. In the settlement, the state dedicated \$1 billion to improve school facilities. If funds are available from state or local sources, students at Santa Monica High School would benefit greatly from well-maintained water

fountains – or even better, from water bottle fill stations such as those Santa Monica College has already installed (Elkay EZH20 brand Rapid Bottle Fill Stations).

The average American consumes 167 plastic bottles per year, and inevitably, some of these bottles end up in the ocean causing harm to marine life. Plastics photodegrade into smaller pieces in seawater which are then mistaken as natural food by marine organisms. Other problems include entanglement and the biomagnification of toxic chemicals that cling to plastic up the food chain. As a result of human pollution, there are currently vast garbage patches in all five major ocean gyres, and 80-95% of the refuse in these patches is plastic.

Team Marine is an organization at Santa Monica High School dedicated to sound research science and environmental advocacy. Founded in 2006 by Marine Biology students and their instructor Benjamin Kay, Team Marine has been involved in science fairs and competitions, participated in lobbying the local and State government on legislation to reduce plastic pollution, and featured in national and international news media as a result of their projects. For more information please visit [www.teammarine.org](http://www.teammarine.org).

See attached pages for the full results of the survey. If you have any questions or would like further information, please contact student Matthew Ware at [matthewrware@gmail.com](mailto:matthewrware@gmail.com) or advisor Benjamin Kay at [bkay@smmusd.org](mailto:bkay@smmusd.org).

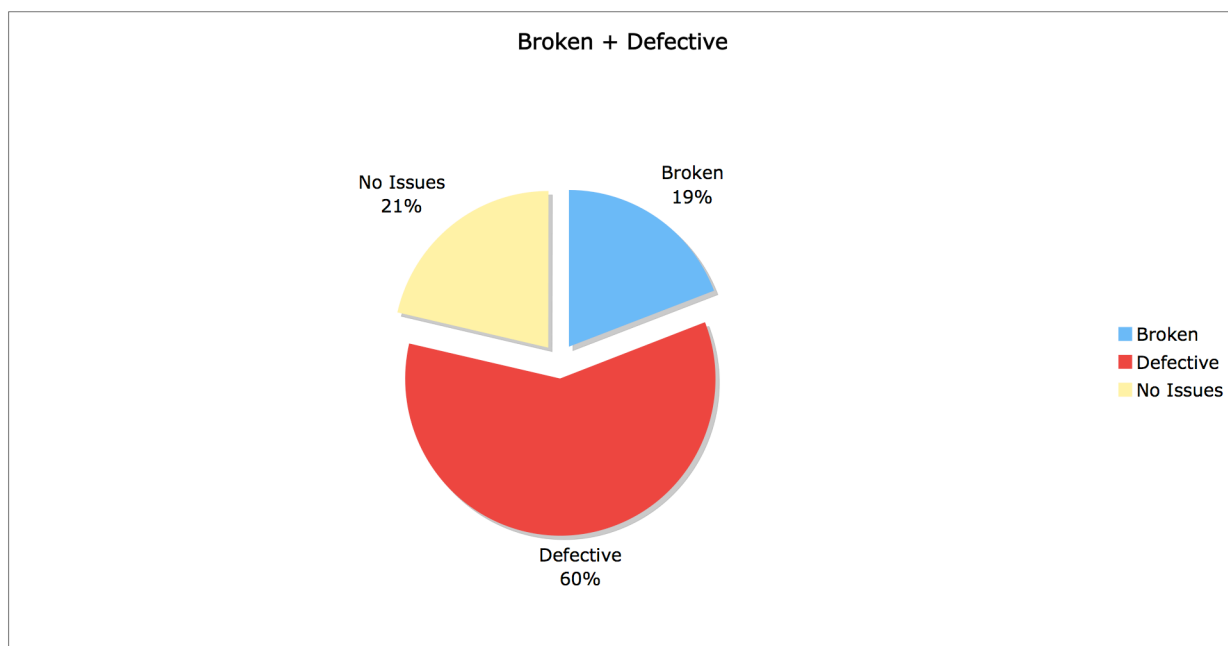


Figure 1. Nearly 80% of water fountains are either broken or defective

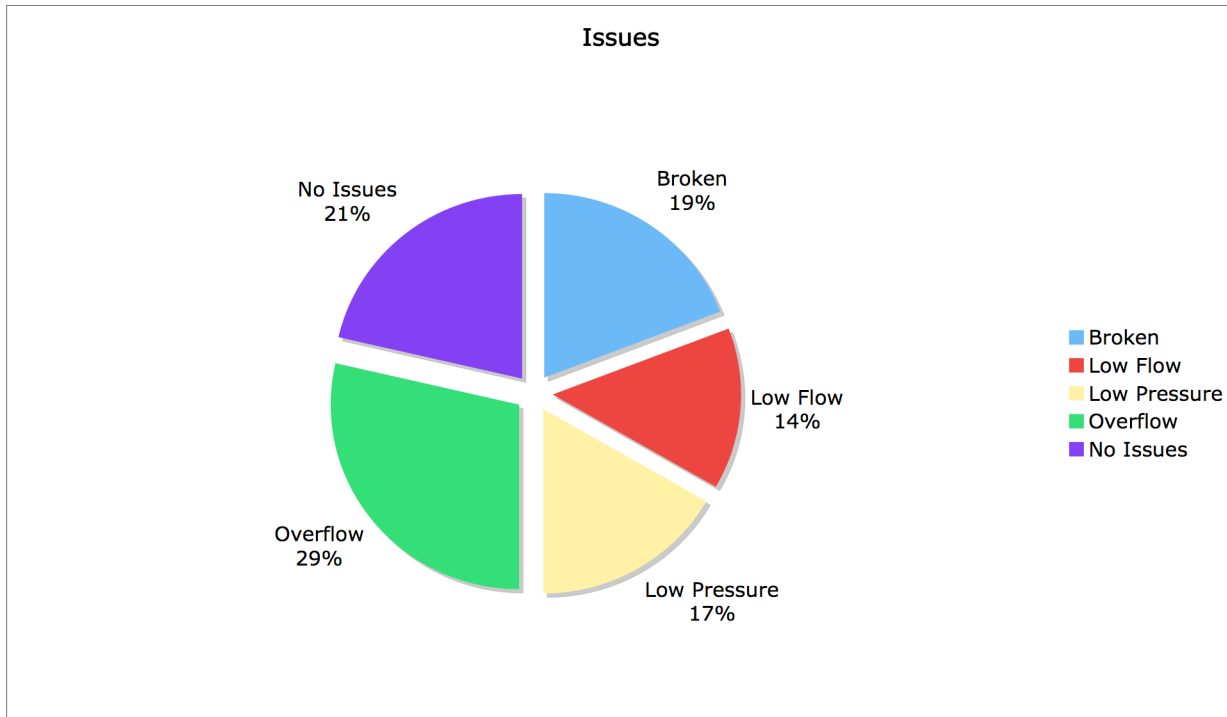


Figure 2. Water fountains broken down by issue