



WATER WOES

Recommendations for Creating Healthier School Environments

Clean drinking water is essential to good health, and it is especially important in schools where children learn and model good nutrition choices.

Ironically, in California's North Coast region where rainfall is abundant, the availability of clean water for students is a growing concern. Despite a two-year campaign to teach nutrition education to hundreds of school children, North Coast health and education professionals heard from students that even though they knew they should drink more water and fewer sodas and sports drinks, finding fresh, free sources of drinking water at school was often a challenge. This lack of free, clean drinking water may be driving school children to drink greater quantities of soda and sports drinks.

As part of its comprehensive *ReThink Your Drink* campaign to help students choose healthier beverages, the Northcoast Nutrition and Fitness Collaborative (NNFC), a collection of over 50 health, nutrition and physical activity professionals, set out to understand the school water situation and how it shapes children's drinking habits.

The Collaborative investigated school children's access to water, attitudes toward campus water sources and solutions to encourage them to choose water over soda, sports drinks and other sugar-sweetened beverages. The Collaborative surveyed more than 175 students in all grades and investigated water sources at 23 low-income schools in Sonoma, Napa, Mendocino, Lake, Humboldt and Del Norte counties.

Results indicate most children looking for a drink of water during school hours have two sources: dirty or nonworking drinking fountains, or costly bottled water. As a result, many students choose to go without water. Others choose to bring high-calorie, sugar-sweetened drinks from home. The lack of appealing or free water sources on campuses limits the abilities of students to follow a key message of the *ReThink Your Drink* campaign: Drink more water and fewer sugar-sweetened beverages.

North Coast schools soon will be required to address the issue of water access due to recent legislation requiring fresh, free drinking water be available with school meals. The Northcoast Nutrition and Fitness Collaborative proposes a range of possibilities to increase drinking water availability on campuses.



Sarah Baldik/The Ukiah Daily Journal



A CRYSTAL CLEAR OPPORTUNITY

Like the rest of the nation, the North Coast faces an obesity epidemic. Throughout the six-county region, a quarter (25.7 percent) of students in grades 5, 7 and 9 are at an unhealthy weight.¹

Public health officials recognize the importance of balancing "calories in" (food and drink) with "calories out" (daily activity and exercise). The U.S. Dietary Guidelines Advisory Committee recommends water as a beverage that helps children balance calories and form healthy habits for life.² Drinking water throughout the day helps prevent weight gain and provides the hydration bodies need to perform well in the classroom.^{3,4} Children who drink sufficient water throughout the day have improved brain function and better academic performance — a finding that should be a powerful motivation for schools under pressure to improve test scores.⁵

Aggressive marketing and ready availability of sodas, sports drinks and other sugar-sweetened beverages have made them the beverages of choice for most children, with more than half of North Coast adolescents drinking at least one soda a day.⁶ Sodas,

sports drinks and other sugary beverages offer minimal nutritional value and are a major source of added sugar in the diets of children. In fact, consumers of a soda a day are 27 percent more likely to be overweight than nonconsumers.⁶

Children who regularly drink sugary beverages are establishing lifelong dietary habits and health risks. Consumption of sugar-sweetened beverages is associated with chronic diseases such as type-2 diabetes and heart disease.⁷ Although a 2006 statewide ban on soda sales in schools helps restrict access, other sugar-sweetened beverages like sports drinks can be purchased on campus. Students can also bring sugar-sweetened drinks in their lunches, and older students can leave open campuses at lunch to buy drinks. This and the limited availability of clean, free drinking water undermine school children's ability to choose healthy options. The statistics are alarming,

Drink One or More Sodas Per Day

County	% of Adolescents (ages 12-17)	% of Children (ages 2-11)
Del Norte*	63.0%	24.5%
Humboldt	50.3%	33.2%
Lake	62.8%	31.6%
Mendocino	39.0%	38.1%
Napa	56.8%	41.5%
Sonoma	60.7%	42.0%

*Data include Del Norte, Siskiyou, Lassen, Trinity, Modoc, Plumas and Sierra Counties.
Source: 2009 "Bubbling Over: Soda Consumption and its Link to Obesity in California"

but there is encouraging news. Replacing sugar-sweetened drinks with water can reduce caloric intake and help children achieve a healthy weight over time.⁸⁻¹⁰

And research indicates children will drink more water if they have a clean, free source of water, if they are allowed to carry reusable water bottles and if they receive classroom lessons on water's health benefits.^{3,11-12}

THIRST FOR KNOWLEDGE

Dehydration negatively affects memory, reasoning, concentration, perception, language skills and coordination.^{4,12}

A study released in 2009 indicated dehydration might be a prevalent condition among children: 60 percent of students studied in Los Angeles and New York were dehydrated at the start of the school day.⁴

If the study results are any indication, North Coast students are at risk as well.

"By the time you feel thirsty, you are already somewhat dehydrated and behind on your fluid intake by about two cups. At that point, you should drink fluid quickly. A student who won't use a school drinking fountain in poor condition and who cannot afford to buy bottled water is definitely at risk of more serious dehydration," says Ann Lindsay, MD, Health Officer of Humboldt County.

Policymakers and health advocates are increasingly stressing the benefits of drinking water during the school day. In late September 2010, Gov. Arnold Schwarzenegger signed Senate Bill 1413 (Leno), requiring schools to provide free, fresh drinking water in lunchrooms by July 2011 (SB 1413, Leno, Chapter 558).

In early 2010, he convened a Summit on Health, Nutrition and Obesity, and declared

water access in schools essential to curbing childhood obesity and pointed out that students who do not get enough to drink may pay the price in classroom performance. He also called for limiting the availability of high-calorie electrolyte replacement drinks.

The U.S. Surgeon General's 2010 Vision for a Healthy and Fit Nation also recommends making drinking water available throughout school settings as an obesity-prevention measure.

UNDERSTANDING THE BEVERAGE ENVIRONMENT IN NORTH COAST SCHOOLS

California schools are now required to provide only one drinking fountain for every 150 students and are not required to have drinking fountains in cafeterias.¹⁵

A recent survey by Project LEAN and the California Department of Education found that nearly 40 percent of responding school districts did not offer free drinking water in cafeterias.⁴ These statistics are even higher in the North Coast, Collaborative members found from interviews with food service directors in low-income school districts. Of seven food service directors in five counties, only one offers free bottled water with school meals, and that is at a higher-income high school. At many schools, free water is available only through drinking fountains that are often poorly maintained.

At Del Norte High School, students asking for cleaner, more modern water sources noted they can spend as much as \$90 a year on water the school sells for 50-cents a bottle. In other schools, bottled water sells for as much as a \$1, which low-income students may not be able to afford.

“Students should have the option for both milk and water during school hours, particularly during meal times, because milk is an excellent source of calcium and vitamin D while water is better for hydration,” said Jodi Stookey, Ph.D, a leading Northern California researcher in cell hydration. Emerging research shows that when



free water was offered alongside milk with school meals, milk consumption did not decrease and water consumption increased.¹¹

To fully understand the school beverage environment on the North Coast, the Northcoast Nutrition and Fitness Collaborative conducted two surveys in the spring of 2010. Schools were chosen based on a convenience sampling and qualified as low-income if 50 percent or more of the students participate in the free and reduced-price meals program.

In the first survey, the **Water Fountain Assessment**, Collaborative members assessed the condition of water fountains in the common areas of 23 schools (elementary, middle and high schools and one preschool within the six county region). Fountains were evaluated on appearance, water flow and taste. Dirty fountains had one or more of the following characteristics affecting appearance at the time of inspection: presence of sand, dirt, mold or other hygienic concerns, extensive stains, little to no water pressure, or clogged drains.

A second survey of children’s water and beverage habits during the school day was conducted at 10 schools. One hundred and seventy-five students in grades 2 to 12 completed a written questionnaire about what they drank at school, whether they drank out of the fountains and what they thought of the appearance and taste of the water.

Negative themes became evident, as outlined in key findings.



KEY FINDINGS

RESULTS FROM THE WATER FOUNTAIN ASSESSMENT

- One-third of the 131 fountains were dirty or uninviting.
- About half of the fountains produced water with an unappealing taste.
- Twenty-five percent of the fountains did not have adequate water pressure, making them essentially unusable.

RESULTS FROM THE STUDENT DRINKING HABITS SURVEY

- A quarter of all students surveyed avoid water fountains because “they’re dirty, broken or the water tastes bad.”
- Of 164 students who answered a question about what they bring to or buy at school, 64 percent said bottled water and 38 percent said a sugar-sweetened beverage.

“Some of the water fountains are just so disgusting you would be brave to even think about drinking out of them. There’s even mold growing near the spout on one of them. Who wants to put their mouth within a few inches of that?”

— Zane Middle School, 7th grader

“I don’t drink from water fountains unless I really need to.”

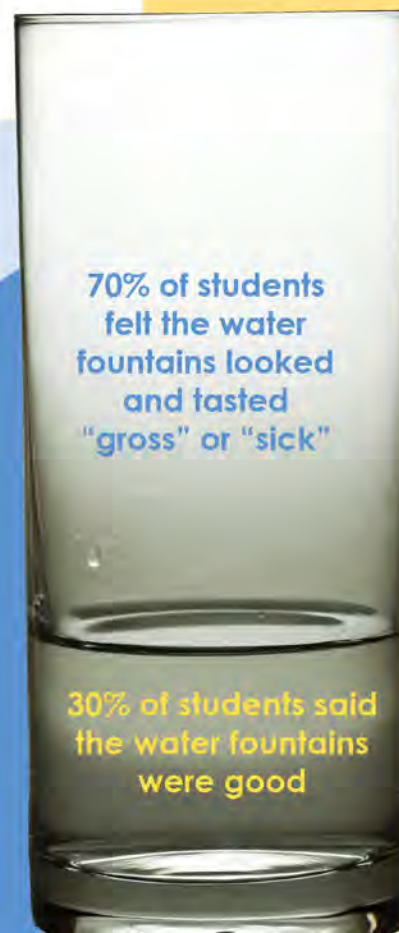
— Del Norte High School, 10th grader

“The water tastes nasty, but I don’t have anywhere else to drink.”

— Smith River Elementary School, 6th grader

“If there were at least one hydration station that couldn’t be tampered with and ran chilled, filtered water, I would be relieved to know I have a clean water source.”

— Del Norte High School, 11th grader



70% of students felt the water fountains looked and tasted “gross” or “sick”

30% of students said the water fountains were good

SPECIFIC RECOMMENDATIONS FOR NORTH COAST SCHOOLS

"Overweight and obesity is a serious health concern within our county and simple measures such as promoting drinking water in place of sugar-sweetened beverages can make a big difference. I strongly encourage schools to explore ways to promote drinking water to students throughout the school day."

— Thomas J. Martinelli, MD, FACP, Del Norte County's Public Health Officer



Survey results indicate students are aware of the healthy drink options promoted through the *ReThink Your Drink* campaign.

In the spring of 2010, **Ukiah Unified School District** conducted a successful pilot intervention in six classrooms and determined students will drink water if it is appealing, available and thought to be beneficial. Results from pre- and post-tests completed by 150 students showed an increase in water consumption.

But infrastructure change is needed to ensure water is appealing to children throughout the school day so they drink fewer sugar-sweetened beverages.

Many California schools from Los Angeles to the Bay Area already use the following innovative strategies to provide free, safe water:

- Installed "hydration stations" in food service and common areas.¹⁶
- Offer bottled water with school meals.¹⁶
- Provide disposable cups and 5-gallon water containers during meal times.⁴
- Include parents and the community in efforts to fund hydration stations, water dispensers and reusable water containers.¹⁷

Improve Appearance and Taste

- Assess your school's water fountains to determine the quality and appearance of water.
- Provide reusable water bottles purchased through fundraisers so students can fill and drink from them throughout the school day.
- Place water jugs and cups in cafeterias and other public areas. This solution would cost about \$1 per year per student.
- During lunch, make sure water is provided alongside low-fat milk.
- Install water hydration stations which can cost around \$800. In pilot studies, school children will drink more water if the delivery system is improved.¹⁷

Encourage Students to Drink More Water

- Highlight how "cool" water is in a campus marketing campaign. Involve students in a poster or advertising contest to highlight why they drink water.
- Use the "Be Sugar Savvy" nutrition education curriculum from the *ReThink Your Drink* campaign.
- Connect with local service organizations and reusable water bottle companies to aid in fundraising efforts.
- Update the school's wellness policy to allow students to bring spill-proof water containers into the classroom and drink throughout the day.
- Reward students who bring water from home or who are seen drinking water.
- Make sure bottled water sold at school-sponsored events costs far less than sugar-sweetened beverages such as sports drinks and teas.

"If the water fountain was better taken care of, kids would want to drink more water from it."

— Biella Elementary School, 5th grader

The Northcoast Nutrition and Fitness Collaborative (NNFC) uses the collective expertise and influence of its members to promote environmental and policy changes that encourage healthy living, especially in low-income communities.

A Collaborative initiative is the *ReThink Your Drink* campaign that teaches the public to recognize the amount of added sugar in sodas, sports drinks and other beverages, and encourages them to choose healthy drinks such as water. NNFC members will work toward policy and environmental changes within low-income schools of the region to increase access to appealing water sources. The Collaborative welcomes your input, ideas and involvement.

For more information, visit www.northcoastnutrition.org or call (707) 543-5810.

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For food stamp information, call 877-847-3663. For important nutrition information, visit www.cachampionsforchange.net.

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