

Water, Water Everywhere – But Would We Dare to Drink It?

Kathryn Hackett and Robert Farrant

Lowell Sun, Sunday December 20, 2009

Walking Fish?

On your way to work waiting for a green light on Pawtucket Boulevard you notice fish with legs crossing the street in search of their first cup of coffee! Sounds far-fetched, right? Keep reading. According to a *New York Times* article “more than 20 percent of the nation’s water treatment systems have violated key provisions of the Safe Drinking Water Act over the last five years.” Reporter Charles Duhigg noted that since 2004 “the water provided to more than 49 million people has contained illegal concentrations of chemicals like arsenic or radioactive substances like uranium, as well as dangerous bacteria often found in sewage” (*NY Times*, December 8, 2009). A boulevard full of ‘walking fish’ does not sound so crazy now.

The Merrimack River is cleaner than it was in the region’s industrial heyday—when it routinely took on the blue, green, or red hue of textile mill dyes—however numerous studies indicate that there are three hundred ‘emerging contaminants’ in the nation’s drinking water supply. It is likely that some of these contaminants from personal and home care products, pet waste and pharmaceuticals find their way into the Merrimack.

Funny Water Everywhere

Indeed, many of us receive a double dose of these contaminants daily. According to the nonprofit group Campaign for Safe Cosmetics (www.safecosmetics.org) an average consumer uses ten cosmetic products a day, most of which contain chemicals.

Unknowingly we slather our bodies with these chemicals and eventually wash them off, sending the little pests on a free ride into the nation’s water supply. What goes down the drain may well make a return visit in the cup of coffee you drink while reading *The Sun*.

Shampoos, hair gels and skin moisturizers contain chemical compounds including Phthalates (THAL-ates) and Perfluorinated Compounds (PFCs). Phthalates are linked to reproductive problems, asthma and liver and kidney damage in humans. PFCs, fluorine-containing chemicals that make materials stain and stick resistant, are linked to liver, pancreatic, testicular and mammary gland tumors in laboratory research and liver and kidney damage in animals.

Pharmaceutical plant runoff into our water supply is another problem. The Lowell-based Merrimack River Watershed Council (MRWC) has screened the river for twenty pharmaceuticals, many of which contain narcotics. They found sixteen of them present! Why does this matter? For starters 300,000 Massachusetts residents get their drinking water from the Merrimack River. MRWC Executive Director Christine Tabak told us, “Right now there are no regulations to protect people regarding ‘safe doses’ of these contaminants.”

Another culprit is pet waste. Bacteria-laced pet waste washes into storm drains and contaminates the water and marine life, perhaps even last night’s seafood meal. According to Mass DEP nearly three tons of pet waste ends up in the Charles River Watershed daily. The Merrimack River Watershed, ten times larger than the Charles, likely functions in a similar way as a gigantic pet toilet.

‘Safe Soap’ and Crazy Fish

Thank goodness for antibacterial soap right, especially with the H1N1 virus around? Ah, not so fast. The main chemical in antibacterial products is Triclosan. An acid used in over 1,500 herbicide products, Triclosan is classified by the EPA as a possible carcinogen. Public health professionals are concerned that too frequent use of antibacterials may produce a strain of ‘super germs’ resistant to existing treatments.

There are no strict federal regulations require companies to fully test ingredients for safety before products hit the market. And, though ingredients should be listed on

product packaging companies often bypass the labeling process. While the amount of toxins we take in matters, research scientists and environmental groups contend that even low exposures can affect small children and produces heightened risks to a fetus.

What about the Merrimack's fish life? You might be surprised to learn that what lurks in the deep may be developing male *and* female sex characteristics from exposure to chemical compounds known as 'Endocrine Disruptors'. Shouldn't this convince the authorities to better regulate pharmaceuticals disposal and the chemicals in so many consumer products? It is 'Hair-raising' to know that our favorite shampoo could be a health risk?

What Can We Do?

There are ways to get involved to improve our waterways. Lowell High School student Christopher Chhoa, a member of the River Ambassadors Program (RAP), gets why our local rivers matter. RAP, an award-winning youth program started in the 1990s at UMass Lowell, involves youth in urban environmental issues. "Keeping the river clean," Chhoa says, "for the next generation and to preserve what we have today," is important. Lowell High student, Charley Chea has tested vernal pools and water in the Concord River and learned how river pollution can affect wildlife. From what she learned she says she "wouldn't drink from the river directly or eat the fish from it because of mercury..." For her keeping our environment clean matters.

Here are five tips for greener choices. First, check items you purchase for credible third party labels such as the "Green Seal" or the EPA Environmentally Preferred Product; the labels indicate the product is environmentally safe. Second, don't confuse romantic fragrance with cleaning performance; fragrances often just mask odors associated with unsafe ingredients. Third, look for product labels that divulge your cleaner's chemical content. If the label reads like a chemistry quiz switch to an item with a shorter list. Fourth, scoop and dispose the pet poop properly. Fifth, get rid of unused pharmaceuticals

correctly. Crush and mix them with old coffee grounds or cat litter and put them in a sealed bag so they do not spill out in the trash.

Finally, here are two websites with information on natural products you can use in place of the ones requiring a PhD in chemistry to understand: www.shaklee.com and www.herbalife.com. Locally, check out and support the work of the Merrimack River Watershed Council (www.merrimack.org). For over thirty years MRWC has advocated for the health of the river through environmental monitoring, education, and community organizing.

Kathryn Hackett is a graduate student and Robert Farrant a professor in UMass Lowell's Department of Regional Economic and Social Development. Robert_Farrant@uml.edu.