It was 1978. Barry Gibb of Bee Gees fame had nothing on me. I sported a golden tan, requisite two-day stubble beard, mirror aviator shades, and a puka shell necklace. I cringe at the very thought of my life-guarding years. But what years they were, and so much has changed since the glory of my youth. My memorable experiences with water at that time were largely limited to my own near-drowning experience at the Outer Banks and analyzing pool water samples for chlorine and alkalinity.

Fast forward 40 years—the Bee Gees are mostly gone, as are my hair and necklace. Ugh. Water is now so much more than a basis of employment and near-death experiences; it is a victim of national mismanagement. Various news outlets have over the last few months described a water system under stress. A taste of the town includes articles on subjects at once familiar and exotic:

- **Premise plumbing/Legionella**—Legionella contamination has been linked to multiple deaths in New York. The Illinois Department of Public Health has reported a fourth death from Legionnaires’ disease after an outbreak at a western Illinois veterans’ home. Six inmates at California’s San Quentin prison have been diagnosed with Legionnaires’ disease. A pharmaceutical factory is closed in North Carolina due to the bacteria.
- **Drought**—roughly 1,100 U.S. counties face drought risk and water shortages for the foreseeable future.
- **Aging infrastructure**—each year roughly one trillion gallons of fresh water are lost in the U.S. through plumbing leaks and water main breaks. In Los Angeles alone, there are almost 6,800 miles of water mains, of which approximately 435 miles require replacement at an estimated cost of $1.3 billion by 2025.
- **Spills**—the Gold King mine spill resulted in a discharge of more than three million gallons of toxic wastewater into the Animas River in Colorado.

From the exotic/emerging camp:
- **Microbeads**—The New York Times recently reported that tiny plastic pieces of polypropylene or polyethylene that are used in toothpaste and other products have begun showing up in fish tissues. Reportedly, the flesh of many fish is “festooned” with tiny plastic beads.
- **Algae toxins**—The Toledo Blade reported that a Lake Erie algal bloom producing microcystin toxins is one of the largest in history.
- **Recreational waters**—the Houston Chronicle reported a 14-year-old boy’s death from the amoeba Naegleria fowleri, sometimes referred to as the “brain-eating” amoeba. Death is caused by primary amoebic meningoencephalitis associated with swimming in contaminated surface waters.
- **Cisterns**—rain water collections systems. Who owns that water anyway?
- **Toilet to tap**—technology exists, but society seems reluctant to entertain the idea.
- **Antidepressants in tap water**—yes, and you are likely consuming tiny quantities of Prozac and Effexor.

We don’t have a water crisis, we have a management crisis. And management crises are amenable to intervention. The individual articles crafted by reporters cited above are well written and appropriately characterize the environmental conditions in which their constituencies have an interest. Where they fail spectacularly is connecting the dots. The issues outlined in this column should sober anyone with an

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interest in human health, and that’s where we come in.

As time proceeds, let’s build on the four foundational areas that frame much of the work we have elected to do. First, let’s continue to maintain credibility through remediation. We are often requested to participate in emergency responses or assess health threats because of our basic science expertise and knowledge of environmental factors. When our profession is called upon, let’s answer the call, and dare to move beyond regulatory functions. Become an expert in root cause analysis, address why something occurred, and tender our recommendations for ensuring this does not happen again. An example of this is Legionella mortality. We should advocate for standard water sampling for premise plumbing just like retail food outlets undergo routine food service inspections.

Second, let’s enter the health promotion business in earnest. As climate-related precipitation patterns continue their march into unpredictability, let’s become more conversant in emerging issues such as cisterns and rain barrels and have an answer ready for the inevitable question “Is it safe?” If so, under what conditions? Will standing water attract vectors? What other factors should we be considering?

Third, we need to tool ourselves to become more active in advocacy. I recognize many in the governmental sector are unable to actively engage in educating law makers as a function of limitations on governmental employees. Having said that, as I craft this message, the Centers for Disease Control and Prevention/National Center for Environmental Health (CDC/NCEH) proposed Fiscal Year 2016 (FY16) budget for safe water has been zeroed out by the Senate and cut by the House. The last time I looked the adult human body is comprised of 50%–75% water. Safe water is about as essential as clean air and wholesome food. I trust I have made my point.

Fourth and last, let’s assert leadership. Let’s insert ourselves in the national and local conversation on water and put the public’s interest into public health conversations. A trillion gallons a year of water lost through poor infrastructure is unconscionable. Let’s work with our colleagues at the American Water Works Association, among others, to draw attention to this national issue and tender recommendations for improvement, even in these days of austerity.

Finally, we can’t ask reporters to do something that we are not willing to do ourselves: connect the dots. I sense we are entering an era of the limits on growth and possibilities as a function of water management. Think about agriculture in California if you need to visualize what I am referring to. We are uniquely qualified to raise these issues in a comprehensive manner because our members are everywhere across the country and can see firsthand what news outlets are reporting to the world at large. Let’s use our local presence and expertise to bring sound science and a sense of responsibility to the conversation. How about a water management strategy and policy session at the 2016 Annual Educational Conference & Exhibition in San Antonio?

My 1970s self would be jazzed at the prospect of such a session.

Legionnaires’ disease is caused by a type of bacterium called Legionella. The bacterium is named after a 1976 outbreak when many people who went to a Philadelphia convention of the American Legion suffered from this disease. A milder infection, also caused by Legionella bacteria, is called Pontiac fever. Source: www.cdc.gov/legionella/index.html.