

CASE STUDY

Resolving Controversial Environmental Issues

How much is better water worth to you?

Endocrine disrupters, antibiotics, pharmaceuticals—they are all in our water that we drink every day. What's wrong with our government to not take care of this problem? Who is responsible—let's vote them out of office! In the mean time, I'll stick to my bottled water—it only costs me a few dollars each day.

Many people agree with these statements. Let's look at them more closely.

First, are these chemicals really in our water? Yes they are—although at very small levels. We commonly find these chemicals in concentrations of a fraction of one part per billion. (Keep in mind that usually we measure pollutants in units of parts per million—or a thousand times more than a part per billion.) We now know that these chemicals are in our water because our analytical abilities are much better than they used to be. We know less about what it means to be consuming these chemicals over a long time period—that part of the science has not been progressing very fast.

Let's then address who is responsible—and what the government should be doing.

Assigning responsibility is easy—everyone is responsible! If we look at the effluent from wastewater treatment plants, we find a major source of pharmaceuticals and antibiotics. We use drugs to help us when we're sick—some pass through our bodies and enter the wastewater stream. We use hormones (think birth control pills and steroids)—they can pass through, too. Unused drugs are often flushed down the toilet when we don't want them anymore or they get old (a practice we all may want to reconsider). Many drugs are used in providing our meat and poultry supply—in fact antibiotic use in healthy animals produced for food has been estimated as being seven times greater than that used for humans. Should we simply stop using them for animals—and what will that do to your food bill? (A hint: compare the price of organic or locally produced meat with conventionally produced meat.)

What about the government—why don't we just take the chemicals out at the wastewater treatment plant—or at least out of the domestic water supply at that treatment plant? Well—we could. Keep in mind though that there is not much of it (the concentrations are very low), and it is very expensive to remove. Our regulatory system governing POTWs took into account the practicality of treatment technology, and removing very trace levels of organic chemicals would add enormously to treatment costs. Similarly—although the drinking water standards are not based on treatment technologies—removing very trace levels of chemicals is very expensive. Let's be clear too on the source of funding for these technologies—water bills and sewer bills—perhaps assisted by tax dollars. This means that anyone using a municipal system to get their water or to flush their toilet, or anyone paying taxes, would pick up this expense. Is it worth it? How much more are you willing to pay?

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Does that get us back to using bottled water? Bottled water quality is controlled by the Food and Drug Administration—and it too has many critics regarding its regulatory program over water. Many bottled waters are simply from a municipal supply, usually supplemented by additional treatment. Trace levels of these chemicals are not regulated by the FDA either—which can leave the consumer wondering if it's better to trust the FDA or the EPA in securing a safe water supply. A further consideration is that the cost of bottled water is going to be measured in dollars—while municipal water is measured in pennies.

So, what do you recommend? Going without is not an option.

Can you Tell the White Hats from the Black Hats?

We have a mature regulatory system governing the quality of the nation's waters—yet much of the assessed waters are of inadequate quality (and who knows about all the other water that we don't even look at!). Increasingly, some of the blame is being attributed to the nation's Publically Owned Treatment Works (POTWs). As our population and urban centers grow, our POTWs become

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