

Independent Science Informs Landmark Citywide Pesticide Phaseout

This issue is about frogs and two mothers, including a piece about unfathomably destructive pesticide contamination juxtaposed with a success story—a story about a landmark local ordinance and about independent science informing local action.

Landmark Ordinance Protects City

Successful adoption of sustainable practices are born of an understanding that pesticides used in our homes and communities are harmful. The work of two women in the small city of Takoma Park, Maryland, just outside Washington, DC, to stop most turf and landscape pesticide use on *public and private* land was informed by their knowledge of independent research—scientists like Tyrone Hayes, Ph.D., a biologist and professor at the University of California Berkeley who identified endocrine disruption, and developmental and reproductive failures associated with legal use of pesticides.

Armed with science and a critique of federal and state regulatory deficiencies, Julie Taddeo and Catherine Cummings did what no others have done in the U.S. They worked with their City Council to exercise the city's democratic right to adopt a community ordinance, which they call a "Safe Grow Zone," to curtail *all* landscape pesticide use. Communities are increasingly adopting policies like this for public lands. However, Maryland is one of seven states that does not restrict (preempt) local authority to regulate pesticide use within their political subdivisions. As Julie and Catherine explained the threat that pesticides pose to their children, and the health of their environment, Council members understood that their proposal was no different from other environmental and neighborhood stewardship laws, including restrictions on littering, recycling, noise, picking up after pets, and smoking. These ordinances all act on values associated with living in the community where clean air and water are shared resources. A year earlier the District of Columbia adopted more limited restrictions on public and private land that includes schools and day care centers and land contiguous to waterways.

Getting to the Scientific Truth

The Safe Grow Zone ordinance prohibits the use of endocrine disrupting landscape pesticides identified by the European Commission. Note that the U.S. Environmental Protection Agency has never complied with a 1996 law that requires it to restrict endocrine disrupting pesticides. But, the debate on endocrine disruptors rages in large part because of the work of Dr. Hayes. He has shown us through his primary research that low level toxic chemical exposure is a meaningful dose, even if below legal limits. Mixtures of pesticides, a daily occurrence, can cause extraordinary hazards. While Dr. Hayes' findings are associated with his research with frogs, in his talk to Beyond Pesticides' 31st National Pesticide Forum this spring (check it out on our website), he cites the data in fish, birds, reptiles, and mammals, including humans, that show developmental, reproductive, and cancer effects associated with pesticide exposure.

Dr. Hayes points out that pesticide-induced damage to the thymus,

or to the immune system, causes a susceptibility to parasites that leads to reduced kidney and liver function, resulting in an organism's demise. Dr. Hayes says, "By damaging the kidney and the liver, you're effectively increasing the pesticide load because now you've damaged the organs that are supposed to metabolize and get rid of the pesticide." Given the subtleties of effects, without both Dr. Hayes' lab and field data, as he says, you would never guess why frog populations are disappearing in dramatic numbers. Dr. Hayes links the endocrine disruptor and herbicide atrazine to aromatase production in the body, which increases the production of estrogen, which causes cancer cells to divide. As he points out, while Novartis joined with AstraZeneca in 2000 to form Syngenta (the manufacturer of atrazine), it left Novartis Oncology to produce letrozole, the chemical that knocks out aromatase and decreases estrogen as a breast cancer treatment. "The same company that gives us 80 million pounds of an aromatase inducer that promotes breast cancer in rats and that's associated with breast cancer in humans now gives us letrozole to knock out aromatase, to basically, I would argue, undo what it did," says Dr. Hayes.

Raising Funds for Independent Science

We need independent science to understand the toxicology, to influence state and local decision makers to act because of industry-dominated regulatory decisions that assume the necessity of toxic materials, driven by companies with an economic interest. Building systems that are not reliant on toxic inputs requires continual understanding of the destructive capacity of toxic materials in commerce and the sustainable practices that can replace them in the marketplace.

Dr. Hayes has been subjected to an orchestrated chemical industry attack, according to an investigative report on court documents in a case filed by Holiday Shores Sanitary District (Edwardsville, IL) and joined by more than 1,000 water utilities covering six states. The utilities, seeking to recover costs associated with testing, monitoring and filtering atrazine-contaminated water, settled for \$105 million last year. But, the attack on Dr. Hayes continues and his independent research funds are threatened.

To help raise the \$150,000 that Dr. Hayes needs, at a minimum, to keep his lab operating, we are starting the *Fund for Independent Science*. We ask you to consider making a pledge to the Fund. If the Fund is able to generate \$150,000 in pledges, we will then circle back

to collect your contribution. As the Fund grows, we will support other independent scientific research to inform greater growth of the sustainable sector. Please go to www.beyondpesticides.org/fundscience to make your pledge. Thank you!



Jay Feldman is executive director of Beyond Pesticides.