The Watershed Partnership, Inc.

March 12, 2010

Environment Committee
Connecticut Legislature
Hartford, Connecticut

Re: Bill 5418 An Act Concerning Integrated Pest Management Plans for Municipal Facilities

Honorable Members of the Environment Committee:

I am Executive Director of the Watershed Partnership, Inc., a nonprofit environmental organization, and a physician trained in human pathology. The Watershed Partnership has been active in the area of educating the public about toxic lawn pesticides and advocating for their elimination.

Proposed bill 5418 has 2 major contradictions. These contradictions must be remedied. If they are not, this bill should not go forward.

5418 mandating the use of integrated pest management (IPM) at municipal facilities contradicts existing statutes banning the use of lawn pesticides at elementary and middle schools (Section 10-231b, Pesticide applications at schools), and day care centers (Section 19a-79a, Pesticide applications at day care centers). Both these bills passed by overwhelming margins in the House and Senate and protect the health of children who are most vulnerable to environmental toxins.

Since 5418 refers to ALL municipal facilities, it must be amended in order to make explicit that the existing pesticide bans at elementary schools, middle schools, and day care centers will stand as is. 5418 should be amended as follows (Amendments in **bold** print):

CHANGE: Sec. 2. Section 22a-66l (a) Each municipality, state department, agency or institution shall use integrated pest management at facilities under its control if the Commissioner of Environmental Protection has provided model pest control management plans pertinent to such facilities **except as provided in Section 10-231b, and Section 19a-79a.**"

Proposed bill 5418 also has an internal contradiction. The internal contradiction is that although municipalities are mandated to use IPM, it looks like IPM is optional when a municipality contracts for pest management services. The bill should be amended as follows.

CHANGE: Sec. 2. Section 22a-66l (b) Each municipality, state agency or school [which] that enters into a contract for services for pest control and pesticide application [may] **shall** revise and maintain its bidding procedures to require contractors to supply integrated pest management services.

In order for IPM to be truly effective there must be effective monitoring and enforcement. Unfortunately, the DEP does not have the staff to monitor or enforce this mandatory IPM municipal program.

Yours truly,

Jerome A. Silbert

Jerome A. Silbert, MD

Attachments

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The Watershed Partnership, Inc.

Lawn Pesticide Fact Sheet

- Of 30 commonly used lawn pesticides, 19 have studies linking them with cancer, 13 are linked with **birth defects**, 21 with **reproductive effects**, 15 with **neurotoxicity** or **abnormal brain development.**[1]
- **Children are particularly susceptible** because of their rapid growth and decreased ability to detoxify toxins.[2, 3]
- **Studies link some lawn pesticides to hyperactivity, developmental delays, behavioral disorder, and motor dysfunction.**[4, 5, 6]
- A Study in the Journal of the National Cancer Institute found that home and garden use of pesticides **can increase the risk of childhood leukemia by almost seven times.**[7]
- **Lawn pesticides can be tracked inside of schools** where they can persist for long periods of time contaminating air, dust, surfaces, and carpets and exposing children to these toxic chemicals even if they are not in contact with the grass.[8]
- **There are safe, effective, affordable alternatives** to using toxic lawn pesticides. A number of towns in Connecticut have successfully switched to pesticide-free organic lawn care.[9,10]
- **IPM is allowed for 3 years on athletic fields in order to restore the soil** (which becomes degraded through pesticide use) and make the transition to pesticide-free organic care.[11]
- There is **provision for pesticide use if there is a condition that threatens the health and safety of the children.** For example, an underground wasp nest or an infestation of ticks.[11]
- There are **significant gaps in the safety testing** of toxic lawn pesticides.[12]
    - **Lawn pesticides are not tested for long term toxicity** unless they are also used on food crops
    - Lawn pesticides are **not tested in the combinations and formulations in which they are actually used.** Yet, these combinations and formulations can be more toxic than the pure active ingredient.
    - There is **no testing of the toxicity of the breakdown products** of these chemicals or their persistence in the environment
- **Lawn pesticides can contaminate well water.** 11% of residential wells tested in a Connecticut town showed the presence of one or more lawn pesticides.[13]
- With so many unknowns and with plausible evidence of harm to children, **it makes no sense for our children to be involuntarily exposed to the unnecessary use of these toxic chemicals especially when there are safe, effective, affordable alternatives.**

References

1 http://www.beyondpesticides.org/lawn/factsheets/30health.pdf

2 National Research Council, National Academy of Sciences. 1993. Pesticides in the Diets of Infants and Children, National Academy Press, Washington, DC: 184-185.

3 US EPA, Office of the Administrator, Environmental Health Threats to Children, EPA 175-F-96-001, September 1996. See also: http://www.epa.gov/pesticides/food/pest.htm.

4 National Research Council. 2000. Scientific frontiers in developmental toxicology and risk assessment.

5 Washington, DC: National Academy Press.Physicians for Social Responsibility, The National Environmental Trust, and The Learning Disabilities Association of America. 2000. Polluting our future: Chemical pollution in the U.S. that affects child development and learning. http://www.net.org/health/tri_report.pdf (accessed 6/2/05).

6 Cox C. 2004. Journal Of Pesticide Reform. Vol. 24 (4) citing: Garry, V.F. et al. 2002. "Birth defects, season of conception, and sex of children born to pesticide applicators living in the Red River Valley of Minnesota." Environ. Health Persp. 110 (Suppl. 3):441-449.

7 Lowengart, R. et al. 1987. "Childhood Leukemia and Parent's Occupational and Home Exposures," Journal of the National Cancer Institute 79:39.

8 Nishioka, M., et al. 1996. Environmental Science Technology, 30:3313-3320; Nishioka, M., et al. 2001. Environmental Health Perspectives, 109(11).

9 See the Northeast Organic Farming Association Connecticut Chapter's information on organic land care. http://www.ctnofa.org/OrganicLandCare/OLC.htm

10 Managing Healthy Sports Fields: A Guide to Using Organic Materials for Low-Maintenance and Chemical-Free Playing Fields by Paul D. Sachs, January 2004

11 See Public Act 05-252, An Act Concerning Pesticides At Schools And Day Care Facilities.

12 EPA registration requires only that the pure chemical compound of the pesticide be tested

13 A survey of Private Drinking Water Wells For Lawn and Tree Care Pesticides in a Connecticut Town, Environment and Human Health, Inc.1999.

For further information contact

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The Precautionary Principle

The release and use of toxic substances, the exploitation of resources, and physical alterations of the environment have had substantial unintended consequences affecting human health and the environment. Some of these concerns are high rates of learning deficiencies, asthma, cancer, birth defects and species extinctions, along with global climate change, stratospheric ozone depletion and global worldwide contamination with toxic substances and nuclear material.

Existing environmental regulations and other decisions, particularly those based on risk assessment, have failed to protect adequately human health and the environment—the larger system of which humans are but a part.

There is compelling evidence that damage to humans and the worldwide environment is of such magnitude and seriousness that new principles for conducting human activities are necessary.

While human activities may involve hazards, people must proceed more carefully than has been the case in recent history. Corporations, government entities, organizations, communities, scientists and other individuals must adopt a precautionary approach to all human endeavors.

Therefore, it is necessary to implement the **Precautionary Principle:** When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically. In this context, the proponent of an activity, rather than the public, should bear the burden of proof.

The process of applying the **Precautionary Principle** must be open, informed and democratic and must include potentially affected parties. It must also involve an examination of the full range of alternatives, including no action.

The Wingspread Statement was the result of an international group of scientists, lawyers, framers, government officials, physicians, philosophers, editors, urban planners, unionists, and environmental activists for a conference on the precautionary principle. They met at Frank Lloyd Wright's Wingspread house in Racine, Wisconsin.

Current decision-making approaches ask:

- How safe is safe?
- What level of risk is acceptable?
- How much contamination can a human or ecosystem assimilate without showing any obvious adverse effects?

The approach stemming from the precautionary principle asks a different set of questions:

- How much contamination can be avoided while still maintaining necessary values?
- What are the alternatives to this product or activity that achieve the desired goal?
- Does society need this activity in the first place?

Current policies such as risk assessment and cost-benefit analysis give the benefit of the doubt to new products and technologies, which may later prove harmful. And when damage occurs, victims and their advocates have the nearly-impossible task of proving that a particular product or activity was responsible.

The Watershed Partnership, Inc.

Deficiencies of Pesticide Safety Review

Numerous environmental and public health organizations have identified a series of deficiencies in EPA's review of pesticides, calling into question the safety of commonly used products.

- **Less and non-toxic strategies ignored:** The current system assumes that if a pesticide meets a highly questionable "acceptable" risk threshold, it has value or benefit. This is the practice even though there are typically less or non-toxic methods or products available. Absent altogether is any analysis of whether the so-called "pest" (insect or plant) has been accurately defined.
- **Inconsistent definition of "reasonable" risk:** The interpretation of "reasonable" risk varies. EPA sometimes allows a cancer risk, for example, of one in a million and other times accepts one in 10,000.
- **Disproportionate risk:** EPA fails to take into account the numerous circumstances and realities that make some population groups more vulnerable to daily pesticide exposures - including children, farm workers and their families and communities, the elderly, those with compromised immune systems, the chemically sensitive, and those living in poverty. People of color are disproportionately represented in these impoverished areas.
- **Pesticide combinations not tested:** Pesticide exposures in the real world are not isolated incidents, although testing for health and environmental impacts occurs in isolation. Research shows that combinations with pesticides and other chemicals, including medications, multiply the toxic effects of individual chemicals and create new adverse impacts not seen in either chemical alone. The U.S. Geological Survey (2006) found that EPA does not evaluate mixtures of pesticides typically found in the nation's streams, rivers and lakes.
- **So called "inert ingredients":** Manufacturers are not required to disclose the so-called "inert" ingredients of its products. Despite their name, these ingredients are neither chemically, biologically or toxicologically harmless. In general, inert ingredients are minimally tested, however, many are known to state, federal and international agencies to be hazardous to human health.
- **Pesticide Breakdown products and contaminants:** Contaminants are often a part of the pesticide product and responsible for product hazards. Metabolites are breakdown products that form when a pesticide is used in the environment and mixes with air, water, soil or living organisms. Contaminants and metabolites can be more hazardous than the parent pesticide.
- **Hormone disruption:** Many commonly used pesticides are known or suspected endocrine disruptors. EPA does not currently evaluate or consider the endocrine disrupting properties of pesticides during registration. Endocrine disruptors are mistaken for hormones by the body and thus may alter the function of hormones. Since hormones regulate things like growth and body development, there is great potential for damage. Estrogen-mimics interfere with the reproductive system, causing infertility, malformed sexual organs, and cancer of sensitive organs.

(over)

- **Pesticides can disrupt the processes of brain development:** There is evidence that the use of certain pesticides leads to subtle changes in normal brain function and behavior. EPA does not currently evaluate or consider brain development disrupting properties of pesticides during registration.
- **EPA assumes 100% compliance:** The agency assumes 100 percent compliance with pesticide product labels when setting standards, ignoring real world violations or accidents, which are widespread.
- **Industry generates data:** All data considered for initial pesticide registration is generated by the chemical company that will be profiting from the sale of the pesticide. Independent research and public review is not considered until after a product is already on the market.
- **No federal incident monitoring:** EPA's Pesticide Incident Monitoring System (PIMS) was abandoned in 1981. Since that time, there has been no federal incident monitoring system to protect workers, residents, and children from pesticide poisoning or to consider in product re-registration.

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January 30, 2007

Senate Environment Committee
State of Connecticut

Dear Committee Members:

First, I offer my apology for my absence from the hearing. I have two classes at Yale on January 31st. My name is John Wargo, and I am a professor of risk analysis and environmental policy and political science at Yale University with appointments in the School of Forestry and Environmental Studies, the Department of Political Science, and I have been Director of Undergraduate Studies for Yale's recently formed Environmental Studies major. I hold a PhD in environmental policy from Yale (1984), taught at Dartmouth in the Thayer School of Engineering until 1986, returned to Yale in 1986, and was promoted to tenure in 1996. Currently, I am a full professor. I have participated in several National Academy of Sciences Panels on human exposure to pesticides, have provided advice to several EPA administrators, have been a long time contributor to EPA's Scientific Advisory Board, testified in both the U.S. House and Senate on issues related to children's environmental health, and advised the U.N. World Health Organization and the Food and Agriculture Organizations on methods to protect children's health from pesticides. I have also participated in the drafting of federal, state and local law designed to protect children from exposure to pesticdes in food, air, water, soils, and consumer products, including pesticides. I also have specific experience measuring and modeling children's exposure to pesticides. I have only a few points to make and they follow.

1. Pesticides are intentionally toxic substances. It is a serious mistake to assume they will affect only species they were designed to harm. Pesticides often have unintended effects on non-targeted species.

2. Children are especially vulnerable to pesticides for two reasons. First, children are physiologically more susceptible to health loss due to rapid growth and development of organs and functions. Second, children breathe more air volume, drink more water, eat more food and touch more potentially contaminated surfaces—all per unit of their bodyweight—than adults. For any concentration of pesticide residue in air, water, food or surfaces, children normally experience higher levels of exposure than adults.

3. Children experience rapid growth and development of different organ systems and functions during different periods. Full maturity often does not occur until the age of 20, after high school years.

4. Most pesticides have not been tested to know their effects on the developing nervous, immune, and endocrine systems of humans. There is plausible evidence that many pesticides are neurotoxic, others mimic human hormones, and still others may affect the immune system. Adverse effects are normally dependent upon the intensity of dose, however the doses that children and adolescents experience in school settings are poorly understood.

5. Current pesticide law permits the application of dozens of pesticides in the school environment, and they are normally applied by individuals who have little or no training in modern chemistry, biology, toxicology, epidemiology, exposure assessment or risk assessment.

6. Collectively, these are serious challenges to those who propose continued application of pesticides in or near schools. I strongly support State legislation that would ban pesticide applications for cosmetic purposes and nuisances on school property. A serious public health threat should be demonstrated before any application is permitted. If public health officials determine that a serious health threat from pests does exist, non-chemical solutions should be attempted before the least persistent, mobile and toxic pesticides are applied. Integrated pest management (IPM) is a term-of-art that often used to justify continuation of past pesticide use practices. It is my opinion that IPM should not be relied upon to provide sufficient protection for children's and women's health.

7. I have not accepted payment for this comment, and I encourage all who offer testimony on this issue to disclose their financial interest in the bill.

Sincerely,

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Professor
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February 26, 2007

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Re: Connecticut Safe School Grounds Legislation

Dear Dr. Silbert:

Thank you for having asked me to comment on the proposed Safe School Grounds legislation that is being considered in the State of Connecticut. I understand that the intent of this bill is to completely ban the use of certain toxic lawn pesticides on the grounds of all elementary, middle and high schools in Connecticut. I support the goals of this important legislation. In my opinion, if this bill is passed into law, it will prevent cases of acute pesticide poisoning as well as subclinical neurotoxicity among Connecticut's school children.

I am a pediatrician who has been involved for many years in studying the impact of pesticides, heavy metals and environmental factors on the health of children. My biosketch is attached to this letter. From 1988 to 1993, I chaired the Committee on Pesticides in the Diets of Infants and Children that was convened by the U.S. National Academy of Sciences at the direction of the U.S. Senate. The report of this Committee documented the very substantial differences that exist between children and adults in exposure and in vulnerability to pesticides. This report concluded that children are uniquely susceptible to pesticides, and it made the strong recommendation that children be provided special protections in law and regulation to safeguard them against the hazardous impacts of pesticides. The recommendations of the NAS Committee on Pesticides that I chaired provided the intellectual basis for the Food Quality Protection Act, the principal federal legislation governing the use of pesticides in the United States.

I am currently Professor of Pediatrics and Chairman of the Department of Community and Preventive Medicine at the Mount Sinai School of Medicine in New York City. At Mount Sinai, I am co-principal investigator of our Center for Children's Health and the Environment and Principal Investigator for the New York Vanguard Center for the National Children's Study.

I strongly support the proposal to ban toxic pesticides from school grounds in Connecticut. Pesticides are chemicals that are deliberately designed to be toxic. Two widely used classes of chemicals that are of particular concern are the organophosphate and the carbamate pesticides. These classes of chemicals are specifically designed to be toxic to the nervous system, and the war gas sarin, which was used in the Tokyo subway attack, is a member of the organophosphate family. Recent research has shown that organophosphate pesticides,

chloropyrofos in particular, are extremely hazardous to the developing brains of children. These compounds can cause acute, clinically obvious poisoning and also can cause silent brain damage. Several years ago the U.S. Environmental Protection Agency banned all residential uses of two organophosphates – chloropyrofos and diazanon. However, many more organophosphate and carbamate pesticides remain on the market. Herbicides are another class of chemical of great concern. Many herbicides are used on school grounds to control weed growth. Among the hazards associated with herbicides are developmental problems and increased risk of certain cancers particularly lymphomas.

Much of the use of pesticides in schools is entirely cosmetic. It is not logical to use highly toxic chemicals to achieve a goal, which is based purely on appearance.

In summary, I strongly support the proposed legislation, and I wish you all best success in achieving its passage.

Sincerely,

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Enclosure

Philip J. Landrigan, MD, MSc, is a pediatrician, epidemiologist, and international leader in public health and preventive medicine. After graduating from Harvard Medical School and completing his residency in pediatrics at Boston Children's Hospital, Dr. Landrigan served for 15 years as an epidemic intelligence service officer and medical epidemiologist at the Centers for Disease Control (CDC) in the National Institute for Occupational Safety and Health. He has been a member of the faculty of the Mount Sinai School of Medicine since 1985 and chairman of the Department of Community and Preventive Medicine since 1990. He has been a leader in developing the National Children's Study, the largest study of children's health and the environment ever launched in the United States.

Dr. Landrigan is a member of the Institute of Medicine of the National Academy of Sciences. He is editor-in-chief of the *American Journal of Industrial Medicine* and previously was editor of *Environmental Research*. He chaired committees at the National Academy of Sciences that produced the reports *Environmental Neurotoxicology* and *Pesticides in the Diets of Infants and Children.* The report that he directed on pesticides and children's health was instrumental in securing passage of the Food Quality Protection Act of 1996, the major federal pesticide law in the United States. From 1995 to 1997, Dr. Landrigan served on the Presidential Advisory Committee on Gulf War Veteran's Illnesses. In 1997 – 1998, Dr. Landrigan served as senior advisor on Children's Health to the administrator of the U.S. Environmental Protection Agency (EPA), and he was instrumental in helping to establish a new Office of Children's Health Protection at the EPA.

Response to Brad Robinson's Summary of the February 18, 2010 Stakeholder Meeting

March 2, 2010

David Brown, DSc, Public Health Toxicologist
Bill Duesing, Executive Director CT Northeast Organic Farming Association
Todd Harrington, Organic Landscaper with 20 years experience
Mike Nadeau, Organic Landscaper with 20 years experience
Jerome Silbert, MD, Executive Director, The Watershed Partnership, Inc.
Kim Stoner, PhD, Entomologist, Connecticut Agricultural Extension Station

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Since Kim Stoner and Jerome Silbert were the only representatives of the "use reduction" group able to attend the last stakeholder meeting, Dr. Silbert polled the others about Brad's summary of the meeting. The use reduction group is in agreement with the following response:

Though our response may not be what some other members of the stakeholder group hoped for, we feel it has been useful to have an honest (sometimes passionate) exchange of views and ideas with the goal of realizing the intent of Integrated Turf Management (ITM) – to use the best cultural methods and non-toxic or least toxic materials.

When our last meeting ended, there were a number if important details and issues that were not discussed. Among them were details about the ITM Advisory Committee such as: its mission, composition, and selection of members, number of members, term limits, and voting procedures. Also, the issue of training, peer group monitoring and certification, and enforcement was not discussed in detail.

The outline of an ITM policy we agreed upon has promise. However, the devil is in the details. **We have no idea if these concepts and the legislation that would embody them would actually work in reality, and yet they were to include not just high schools but also elementary and middle schools with children who are particularly vulnerable to environmental toxins.**

Because of these uncertainties, we propose that the pesticide ban legislation for elementary and middle schools remain unchanged. The following concepts *that were generally agreed upon, should be applied only to high schools*:

- An ITM Advisory Board
- Training of groundskeeping staff in ITM
- Peer monitoring and certification
- A uniform ITM program
- A list of non-toxic and least toxic alternatives
- Adoption of lawn pesticide use guidelines and a screening process along the lines of the San Francisco guidelines and the School Environment Protection Act
- An effective enforcement process.

Combined with an effective evaluation process, high schools would be the test to see if these policies actually work. For example, how many school districts will participate in a voluntary peer certification, training, and monitoring program? What will be the criteria for certification? Will there be an actual reduction and elimination of more toxic pesticides and substitution of non-toxic and least toxic alternatives. We can then see if there is cooperation from the school

groundskeepers and their professional associations, and if the ITM Program is truly successful. Based on this experience, the program might be extended to the athletic fields in the lower grades, after taking into account the different requirements for young children who are more vulnerable to environmental toxins, and the fact that there may be different requirements for athletic fields for these groups.

High schools that share athletic fields with middle and/or elementary schools are potential tests for alternative approaches because their athletic fields will be subject to the pesticide ban on July 1, 2010. Organic land care professionals in the use reduction group with over 40 years of combined experience feel that, properly done, a natural organic approach yields good results. Groundskeepers have had three years to transition to "organic" care. Those that did have had good results.

We feel that this approach is reasonable because it "tests the waters."

Just a minor point of clarification in Brad's summary: Brad said that *"the law states that no pesticides may be used on school grounds after July 1, 2010,..."* Actually, the law states that no EPA registered lawn pesticides can be used on school grounds of schools with children in grades K-8 NOW. The exception is athletic fields. However, no EPA registered lawn pesticide can be used on these fields after July 1, 2010.