



# BEYOND PESTICIDES

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Environmental Protection Agency  
Public Information and Records Integrity Branch (7502C)  
Office of Pesticide Programs  
1200 Pennsylvania Ave., NW  
Washington, DC 20460-0001

**RE: Docket ID No. OPP-2004-0018**

We appreciate the opportunity to comment on the EPA's "Labeling Statements on Products Used for Mosquito Control." These comments are submitted on behalf of Beyond Pesticides and its national membership and the groups signed below. We write to respectfully request the EPA to reconsider the recommendations set forth in the above-referenced document. The comments put forth in this letter illustrate what we consider to be compelling reasons why this proposal should be dropped.

## **Introduction**

We believe that most of the recommendations set forth in the agency's proposal will result in adverse effects on public health and the environment. The proposed recommendations will also create the unintended consequence of an overall increase in ULV spraying without a proper assessment of the effects of that increase in spraying.

The agency identifies seven aspects of labeling that it claims are aimed at providing consistency rather than differences among labels. However, making labels consistent for the purpose of convenience for the users and at the cost of known and unknown hazards to wildlife is unacceptable. The precautions on each label are there for a distinct purpose and due to distinct data. As the chemicals have different known and unknown effects on human health and wildlife, we believe that it is only appropriate for the agency to change the label after a complete toxicity assessment is performed as the active ingredient comes up for reregistration review. Neither the public nor the environment is well served or better protected by the agency removing use restrictions or wildlife protections on adulticides prior to an assessment of the new usage patterns.

Introducing these kinds of changes to the label will push mosquito control in the wrong direction and unintentionally inspire a new wave of reliance on adulticiding. This comes at a crucial time when many mosquito managers are moving toward more responsible management with better surveillance, prevention and larval control. The agency must be made aware that there is currently a crisis of misuse and controversial adulticidal

spraying taking place across the country and should not assume as it does that IPM principles are generally being utilized in determining treatment schedules. Unlike other professions, methods of mosquito control have essentially no oversight in the U.S. and no document in particular that can be highlighted as the guidebook of best practices for safe and effective mosquito control.<sup>1</sup> Instead, what we have witnessed since the onset of West Nile virus in 1999 is a very wide range of practices, some extremely controversial, of the quasi-governmental vector control departments.

Beyond Pesticides and its partners receive numerous reports of practices that include spraying in winds greater than 10mph, allowing children to follow behind fogging trucks, refusing to engage community leaders or respect the desires of residents to opt-out of spray programs, establishing regular spray schedules without proper vector surveillance, environmentally destructive wetland and water management and other irresponsible practices. To date the only real checks and balances against such practices are community voices. The proposed label changes will further mute those voices, could bolster bad practices, and could likely result in a new wave of litigation.<sup>2</sup>

The document purports that spraying protects public health “while ensuring that use of these products will not pose unreasonable risks to the environment.” Yet, neither statement can be substantiated by any credible evidence. As far as we understand, the agency has not fulfilled its legal obligation to fully evaluate the impacts of new use patterns on human health and the environment and in fact has excluded such uses from its cumulative risk assessments for organophosphates – many of which, malathion, naled, carbaryl, chlorpyrifos, and others, include mosquito control.<sup>3</sup> In regards to public health being protected by spraying adulticides for West Nile virus (WNV), there is no credible evidence that adulticides are effective in lowering the incidence of WNV and therefore cannot be said to be protecting public health.<sup>4</sup> In fact, there are numerous reports of cities that did not adulticide and had lower attack rates (serious illness transmission) per population rate than their neighbors that did adulticide. See Appendix for some of those reports.

The agency claims that it “supports IPM approaches and believes that the use of mosquito adulticides should be consistent with IPM principles” and presumes that such practices are *generally* utilized. Wishing that IPM principles will be followed unfortunately will not make it so. According to the Centers for Disease Control and Prevention (CDC) 2003

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<sup>1</sup> Guidelines provided by the Centers for Disease Control and Prevention in its Revised Guidelines for Surveillance, Prevention, and Control come the closest to set of national guidelines and are helpful but are still not as complete as they could be for vector managers – particularly on best practices for larval control.

<sup>2</sup> Litigation against label violations under the Clean Water Act may likely challenge EPA’s label changes. Other lawsuits against adulticidal practices could also be spurred as found in Canada. (“West Nile Suits Can Proceed, Lawyer says,” The Globe and Mail. July 19, 2004.)

<sup>3</sup> Revised OP Cumulative Risk Assessment, 2002.

<sup>4</sup> Roger Nasci, CDC research entomologist and President of AMCA, before the National Association of County and City Health Officials, July 2004. “We know that we can document a reduction of mosquitoes through mosquito management,” but there is conflicting evidence on whether mosquito control programs reduce human cases of WNV,” he said. Center for Infectious Disease Research & Policy. CIDRAP News Jul 15, 2004.

WNV Guidelines, “IPM is based on an understanding of the underlying biology of the transmission system, and utilizes regular monitoring to determine if and when interventions are needed to keep pest numbers below levels at which intolerable levels of damage, annoyance, or disease occur. IPM-based systems employ a variety of physical, mechanical, cultural, biological and educational measures, singly or in appropriate combination, to attain the desired pest population control.”<sup>5</sup> An ideal label should suggest that the applicant use other least-toxic, preventative and long-term methods of control prior to applying the adulticide. However, if inspiring IPM principles is indeed a goal, then at the very least the label should advise that mosquito surveillance be performed prior to and after application to ensure that the measures taken are necessary.

Although IPM is recognized as an acceptable method, it is not one of the changes suggested by the document. This section ends with the statement that the proposed changes will “assist users in making effective mosquito control applications with minimal risks to the environment.” How is the removal of restrictions on adulticides with fewer or no protections for wildlife making mosquito control more effective with minimal risk to the environment? Mosquito control can only be made more effective by using well-recognized, effective IPM techniques supported by the professional entomological community with the pursuit of minimal risk to health and environment. Aside from NOT being non- or least-toxic, we do not consider adulticides to be in the category of “minimal risk to health and environment” since they are used in a broadcast manner that results in pesticide drift and hitting non-target species.

### **Recommendation 1: Applicators**

We applaud the agency for taking more restrictive measures than an across-the-board change to RUP status by limiting use of adulticides to “federal, state, tribal, or local government officials responsible for public health or vector control.” However, we believe that the intent of the restriction is operationally weakened by the final clause: “[O]r by persons under their direct supervision,” which allows for the historical *Federal Insecticide, Fungicide, Rodenticide Act* (FIFRA) loophole that essentially results in the misuse of pesticides, poisonings or irresponsible practices in the field.

### **Recommendation 2: Terrestrial Use**

We understand that the agency may want to clarify its intentions based on its perspective that, “Mosquito control directions... were...presumed to have their own set of aquatic precautionary statements. This point is not clear on labels themselves; it is only discussed in EPA’s Label Review Manual.”<sup>6</sup> However, our support for this recommendation is contingent upon the precautions actually assessed and put forth by the agency for protection of aquatic species. Such precautionary assessments as put forth in this proposal are highly insufficient (as they basically call for a harmonization without proper or real assessment of adverse affects to environment). The actual recommendation states “The

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<sup>5</sup> Centers for Disease Control and Prevention. 2003. *Guidelines for Surveillance, Prevention, and Control*.

<sup>6</sup> EPA. 2001. Region II Inter-Regional Mosquito Control Conference Issue III, Recommendation 3 available at <http://www.epa.gov/oppfead1/cb/ppdc/2003/mosquitocont.htm>.

standard terrestrial use water hazard statement should not appear on product containers labeled solely for mosquito control.” This recommendation would simply remove an important precaution from the label without any real justification or effects analysis.

### **Recommendation 3: Waterways**

The recommendation put forth on waterways is potentially the most damaging to the environment and public health. Different chemicals used in spraying have different instructions and precautions with regards to waterways for a distinct purpose. Rather than changing the restrictions to the lowest common denominator in order to make more uniform labels, protections should be ramped upwards for maximum protection. Using the example provided, since permethrin labels utilize a restriction of 100 foot buffer zones of waterways, then all products shown to be toxic to fish and other aquatic wildlife should have this buffer zone, particularly since the agency already recognizes the problem of pesticide drift. The fact that the buffer zones are not mentioned on other labels such as malathion and resmethrin means that the agency has failed to account for drift in those cases. If there is a dispute about toxicity levels of ULV permethrin sprays then that should be taken up separately and not be used as an opportunity to “harmonize” labels to the lowest common denominator.

In the United States, wetlands such as marshes and swamps are considered essential components of the natural system and the “filters” of our entire aquatic ecosystem. They harbor groups of species that play a fundamental and imperative role in feeding the rest of the environment. In fact, the disappearance of wetlands has so alarmed biologists that Congress has instituted a national “no net loss” requirement for land management. As Montana’s Department of Public Health points out, “Maintaining the natural functions of wetlands and restoring impaired wetlands to natural healthy fully functioning wetlands should be of vital concern to the public and mosquito control agencies.”<sup>7</sup>

Wetlands, marshes, rivers, streams and even man-made drainage systems can provide habitat to a vast array of wildlife, including amphibians, mammals, birds and beneficial insects that are susceptible to the effects of pesticides. Current research shows that the vector mosquitoes for West Nile virus are more likely to inhabit containers, puddles and poorly managed wet areas than healthy wetlands, which are generally not thought to be a source of mosquitoes that pose threats to public health. Natural wetlands and well maintained man-made water drainage systems have natural controls on mosquito populations such as constant water flow and natural mosquito predators.<sup>8</sup> Broad-spectrum adulticides can kill a number of non-target insects, including beneficial species such as mosquito predators like dragonflies, damselflies, and beetles.<sup>9</sup> Dragonflies take from several weeks up to a year, depending on the species, to complete their life cycle, while mosquitoes take just a few weeks. This proposal will likely impel consistent or excessive

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<sup>7</sup> MT Dept. of Health, Wetlands, <http://www.dphhs.state.mt.us/> (viewed 10/5/03)

<sup>8</sup> National Wildlife Federation, WNV Factsheet.

<http://www.nwf.org/backyardwildlifehabitat/pdfs/westnilevirus.pdf> (viewed July 3, 2004)

<sup>9</sup> Howard, J. et al. 1997. “Impact of Naled (Dibrom 14) on the Mosquito Vectors of Eastern Equine Encephalitis Virus.” *Journal of the American Mosquito Control Association* 13(4): 315-325.

adulticidal spraying which could result in a serious loss of natural controls and hence, an increase in local mosquito populations. It may also support a treadmill effect of reliance on adulticides.

Changing the label to allow spraying of adulticides in and over waterways conflicts with adherence to the *Clean Water Act (CWA)*. We believe that FIFRA and CWA are complementary laws with fundamentally different standards and methods in determining whether a pesticide will have unreasonable adverse effects on the environment and/or human health.

There are two prime examples for why the CWA should be enacted with regards to adulticides. One example is that the label for malathion states that it is a Class 9, Marine Pollutant under UN 3082, PG III. Marine pollutants are regulated by CWA and the NPDES system. The second is that the agency currently has insufficient information to determine unreasonable adverse effects to human health and the environment of synthetic pyrethroids and will not have sufficient information until this class goes through reregistration review in 2006. Currently, there are an abundant number of studies that indicate synthetic pyrethroids are endocrine disruptors that can harm both humans and wildlife.<sup>10</sup> Most argue that it's the dose that makes the poison and therefore ULVs pose no hazard, but for endocrine mimickers, it's timing not the dose that makes the poison and at exceptionally low levels.

Further, the EPA has only evaluated the effect of adulticides on surface water, not on sediment. A recent U.C. Berkeley study has shown that synthetic pyrethroids are not breaking down but instead accumulating in creek sediments to levels that are toxic to freshwater bottom dwellers. This study, supplied to the agency by Beyond Pesticides on June 16, 2004, has broad implications for the health and sustainability of freshwater ecosystems and should be cause alone to prevent any change in labels that would have the ultimate result of inducing more broadcast spraying of synthetic pyrethroids.<sup>11</sup>

Lastly on the point of FIFRA vs. CWA, it is important to note that adulticidal use should be subject to approval of local Fish and Wildlife Services (FWS) prior to any scheduled spray in the vicinity of a waterway in order for that agency to properly fulfill its mandate to monitor and protect our waterways. Changing the label to get around this issue of FIFRA or CWA is highly improper. By allowing mosquito vector control departments to spray without any oversight from FWS sets up yet another obstacle of communication between government agencies.

- The agency attempts to justify recommendation 3 by stating that “an ‘over water’ prohibition may sometimes interfere unnecessarily with the timely treatment of infested areas adjacent to water if, for example, an area happens to be downwind of a water body.”

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<sup>10</sup> Environmental Health Perspectives, March 1999. Vol. 107, no. 3, pages 173-177.

<sup>11</sup> Environ. Sci. & Tech. 2004. "Distribution and Toxicity of Sediment-Associated Pesticides in Agriculture-Dominated Water Bodies of California's Central Valley," Weston, D. P., et al.

Essentially this means that an applicator can spray over a waterway if he/she is trying to hit a target downwind of that area. We believe that mosquito control should be targeted and not rely on drift. This practice is ineffective, inappropriate, and unnecessarily harmful to human health and waterways.

- “[T]he public interest would generally be better served in terms of health protection if ULV mosquito control pesticides can be applied in a manner consistent with commonly accepted vector control practices, rather than under widely varying limits on some products.”

Again, as mentioned in the introduction of these comments, relying on “commonly accepted vector control practices,” a rather arbitrary reference given that such practices vary widely, is simply irresponsible.

- “[I]t is preferable to state that a product is ‘toxic to fish, crustaceans, and oysters’, if data show that, rather than only stating the generalization ‘toxic to aquatic organisms’ used on some current labels.”

The point of a precaution for all aquatic organisms is due not only to the likely case that it is true, but also to the fact that not all organisms undergo toxicity testing. This is an issue long dealt with by the agency and we do not understand why now it would be appropriate to only limit toxicity data to the exact species tested. Research is presumptive upon similarities between aquatic species. It is absurd to suggest that if a chemical is found to be highly toxic to a certain species then we cannot precaution its toxicity for other similar species simply because we have not tested those additional species. Unless the agency specifically plans to fund further research into the toxicity of these chemicals on all aquatic animals, those concerned about the health of these ecosystems can never support this recommendation.

#### **Recommendation 4: *Advisable to Consult***

Here the agency states that it “does not believe it is appropriate for the label to create an obligation for applicators to consult state/tribal pesticide agencies...” The document makes the case that since there isn’t uniformity in what state agency should be contacted by the applicator, there should not be any required contact at all. The goal of the Draft Registration is to bring uniformity to the rules by making them similar, not by rebuking them all together. This is illogical and defies the building of coordinated governmental efforts in our state and federal system. Instead the recommendation states that it is “*advisable*” to consult with the state or tribal agency. Again, if the agency clearly recognizes the benefit of having such checks and balances that better maintain and monitor our environment by advising consultation, why not make it mandatory? Again, we believe that this removes all accountability for the applicators actions and sets up a

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<sup>12</sup> The study, "Distribution and Toxicity of Sediment-Associated Pesticides in Agriculture-Dominated Water Bodies of California's Central Valley," Weston, D. P.; You, J. C.; Lydy, M. J.; Environ. Sci. Technol.

disaster of fish, bird, amphibian, and other kills due to uncoordinated, unsupervised and elevated mosquito spraying. It also may conflict with the CWA.

### **Recommendation 5: Droplet size**

One of the major problems and worries for mosquito management is that of mosquito resistance to pesticides by receiving less than lethal doses. A 2003 study found that mosquitoes carrying West Nile virus and malaria developed resistance to organophosphate and carbamate insecticides as a result of a single genetic mutation.<sup>13</sup> Therefore we agree for the most part with this recommendation, however, given that resistance is a problem and a primary concern, we feel that the manufacturer should set the percentage and that there should not be any flexibility in changing that percentage. This would eliminate the problem of applicators applying sub-lethal dosages that cause resistance. The problem of companies overestimating the percentage of active ingredient necessary per droplet in order to increase sales should be dealt with separately by the agency with a request for proper efficacy studies. In timely fashion, a recent article just reported that "The Harris County Health Department says it's spraying a higher concentration [of adulticides] in some areas because mosquitoes have become resistant."<sup>14</sup>

### **Recommendation 6: Bees and Other Pollinators**

This recommendation argues, "in some circumstances, however, public health protection may require daylight treatments which could include areas visited by bees." First, the application of adulticides during the day is highly ineffective as most disease-carrying vector mosquitoes do not fly during the day and adulticides aim to hit flying populations. The Asian tiger mosquito, which may be the single exception to this general rule, must be dealt with separately by mosquito control, i.e. through larviciding and special tracking. Again, this change will simply open the use of adulticides up to abuse. Second, the risk to humans is greater during the day since more humans are out and may be in mosquito prone areas.

Current restrictions meant to protect bees and other pollinators barely keep adulticides from being sprayed (and bees killed) during the day. Removing all protections will be devastating to beekeepers, pollinator groups and the honey industry. According to beekeepers, the past 30 years have seen a dramatic decrease and shortage in some places of domestic honeybees, wild honeybees, and many other wild bees, such as bumblebees, leafcutter bees and other solitary bees. Butterfly populations are also reported to be in decline. The American Honey Producers Association reports fewer beehives in America today than in almost 50 years. Much of this is from pesticide use and misuse. This past spring, Florida expected shortages of pollinators for its watermelon and citrus crops and California for its almond crops, according to the Orlando Sentinel, March 15, 2004. The result has reverberations throughout the economy with smaller retail produce that can

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<sup>13</sup> Weill, M., et al. 2003. "Insecticide Resistance in Mosquito Vectors." *Nature* 423(6936): 136-137.

<sup>14</sup> News24 Houston. July 15, 2004,

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