



BEYOND PESTICIDES

701 E Street, SE ■ Washington DC 20003
202-543-5450 phone ■ 202-543-4791 fax
info@beyondpesticides.org ■ www.beyondpesticides.org

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Water Docket

U.S. Environmental Protection Agency

Mail Code 2822T

1200 Pennsylvania Ave., NW

Washington DC 20460

Re: Draft National Pollutant Discharge Elimination System (NPDES) Pesticide General Permit for Point Source Discharges From the Application of Pesticides
Docket Number: EPA-HQ-OW-2010-0257

We are writing these comments in response to the agency's Draft NPDES Pesticide General Permit for Point Source Discharges. Beyond Pesticides is eager for full implementation of the 2009 court decision in the case of the *National Cotton Council et al. v. EPA*, which ruled to uphold the Clean Water Act (CWA) and require NPDES permits for pesticide discharges. We urge the agency to adopt and enforce strong, meaningful regulation of pesticide applications in order to fully protect public health and the environment.

For decades our nation's waterways have been polluted with hazardous pesticides and their degradates which impact aquatic populations of animals and plants, and decrease surface and drinking water quality. Many of these pesticides accumulate in fish and other organisms, making their way up the food chain, to eventually be consumed by the American public. Strong regulatory action is needed to ensure that our waters are adequately protected from all industrial and agricultural pollution.

The goal of the Clean Water Act is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters" 33 U.S.C. 1251 (a) "for the protection and propagation of fish, shellfish, and wildlife" 33 U.S.C. 1251(a)(2). EPA is given the authority of "preventing, reducing, or eliminating the pollution of the navigable waters and ground waters..." 33 U.S.C. 1252(a). To this end, the agency can use a variety of regulatory and non-regulatory tools to sharply reduce direct pollutant discharges into waterways and manage

polluted runoff and deposition. The Federal Insecticide, Fungicide, Rodenticide Act (FIFRA) regulates the sale, distribution and use of pesticides in the U.S. Through the many limitations of FIFRA and its risk assessment process, many pesticides are introduced to the market with many data gaps and insufficient analysis of their potential to impact aquatic organisms, water quality and human health. For example, atrazine, the controversial and widely used herbicide, is currently linked to numerous adverse effects including the reproduction, immune and hormone system disruption of fish, other aquatic organisms and humans. Yet, atrazine continues to poison our waterways even now while the agency conducts its special review of this chemical. The NPDES permitting system is an important tool for monitoring and regulating pesticide discharges into waterways versus FIFRA.

However, there are many concerns to the proposed general permit that must be addressed before implementation. The agency must strengthen and enforce requirements for monitoring and integrated pest management, set restrictive water standards for all pesticides in use and reduce or eliminate arbitrary acreage thresholds.

Limitations of the Proposed General Permit

1. Annual Treatment Area Threshold Must Offer Adequate Protection

According to EPA's factsheet, EPA developed annual treatment area thresholds for each use pattern (mosquito and other flying insect, aquatic weed and algae control, aquatic nuisance animal and forest canopy pest control) that it believes will only exclude those operators making small-area applications from the Notice of Intent (NOI) requirement because their discharges will be comparatively small. For mosquito and forest canopy control, the threshold is 640 acres, meaning that applicators would not need to submit a NOI or complete a pesticide discharge management plan if they apply pesticides to acreage of less than 640 acres. Similarly, for aquatic areas, the threshold is 20 acres.

Is it that pesticide discharge and subsequent water contamination only occur when pesticides are applied to 640 acres or more? We do not believe that this is the case. Whether pesticides are applied to 1 acre, 5 acres, 20 acres or 1000 acres per year, pesticide contamination and its subsequent ill effects will occur, and as such all applicators of pesticides should be required a permit and to submit a NOI in order to do so. The agency states that it developed annual treatment area thresholds that differentiate between applications to small areas and those treatments to larger areas which are believed to have a greater potential for impact on waters of the U.S. The agency ignores that small applications of toxic pesticides also have the potential to severely impact waterways. Recent studies have shown that low concentrations of pesticides (0.1-15ppb), like those that could result from small applications, impact aquatic communities.^{1,2,3} Thus, the annual treatment threshold should be drastically lowered or

¹ Relyea RA. 2009. A cocktail of contaminants: how mixtures of pesticides at low concentrations affect aquatic communities. *Oecologia*. 159(2):363-76.

² Downing AL, et al. 2008. Community and ecosystem responses to a pulsed pesticide disturbance in freshwater ecosystems. *Ecotoxicology*.17(6):539-48

eliminated in order for NPDES permits to establish a fully credible mechanism to regulate pesticide discharges. We hope the agency seriously reconsiders giving a pass to smaller applicators based on acreage sprayed instead of utilizing current scientific data to determine permitting requirements.

2. Pesticide Monitoring Must be Made Stronger

Under the proposed general permit, the agency's requirements for monitoring seem to be quite arbitrary. As part of site monitoring, the agency requires the applicator to use the lowest amount of pesticide to control pests, perform regular maintenance of equipment and conduct visual spot checks of the applied area for possible and observable adverse incidents (p14). The agency does not require testing of sediment or water samples, or pre- and post monitoring of populations of aquatic organisms. The current monitoring requirements need to be strengthened by the agency. Visual spot checking, which is subject to human error and bias, is not a reliable method to monitor potential adverse effects of pesticide contamination.

The agency has a history of lacking enforcement capacity. The agency is aware that there is a low level of pesticide label and permit compliance, yet does not have an enforcement plan that will ensure compliance with mitigation measures. This is compounded by the fact that applicators are required to police themselves. EPA has the authority to inspect premises and records of permittees, but these inspections are sporadic at best and sometimes never take place, unless a catastrophic event occurs. EPA must commit to enforcing permit requirements by devoting resources to regularly inspect, monitor and collect samples from treated areas in order to ensure that water quality restrictions are being met.

3. Public Comment Is Essential to the Permitting Process

The general permit will be subject to public comment, providing an opportunity to address the effluent limitations and management plans, as well as request a public hearing on the permit, as required under the CWA. We urge the agency to adopt a provision that local communities must be notified – whether via local newspaper, television or radio - of the public comment period for the issuance of permits. This would ensure that local citizenry, especially those who regularly utilize local surface or ground waters, have ample opportunity to be a part of this regulatory process.

Organic Practices and Integrated Pest Management (IPM) Must Be Considered

EPA is requiring applicators, as part of the permitting process, to carry out IPM practices as a way of reducing pesticide discharge to waterways. However, the agency is not requiring applicators that fall below the treatment threshold to conduct IPM since the agency is “unclear whether it is economically achievable for small applications to implement IPM and because of concerns about potential unintended consequences of such a requirement.”⁴ IPM as defined in the general permit involves the identification of the pest problem, and evaluation and

³ Hayes, Tyrone B. 2002. “Hermaphroditic, demasculinized frogs after exposure to the herbicide atrazine at low ecologically relevant doses.” Proceedings of the National Academy of Sciences. Vol. 99, No. 8.

⁴ USEPA. 2010. 2010 NPDES Pesticides General Permit Fact Sheet. Office of Water. Washington DC

implementation of the following pest management options: (a) no action (b) prevention (c) mechanical or physical methods (d) cultural methods (e) biological control agents (f) pesticides.(p10 11,12,13) Given these options and their possible implementation, it is hard to envision how these IPM options can result in ‘unintended consequences’ or how they may not be economically achievable. The costs of implementing IPM are no more than the cost of using chemicals, and can in the long-term, be cheaper. A 2001 report by the General Accounting Office stated that, “IPM practices can produce significant environmental benefits in particular crops and locations, without sacrificing yield quality or quantity or incurring additional costs.”⁵ The agency should clarify what it means when it questions whether IPM can be economically achievable for small operators. IPM, which can be effective at controlling pests once implemented and used diligently,⁶ must be required for all pesticide applicators regardless of how much acreage is covered. Once again, any acreage threshold criteria should be eliminated.

EPA must be vigilant when recommending the use of IPM. Many opt for the “quick fix” solution and resort to chemical application without attempting IPM methods. How is the agency going to verify whether IPM was attempted and was unsuccessful? While the inclusion of IPM as a permit requirement is commendable, the agency must put the appropriate measures in place to ensure that IPM is incorporated as a permanent pest management strategy, before toxic chemicals that impact our environment and health are relied upon.

For agricultural uses where direct deposition is unavoidable, the agency should also consider incorporating organic standards as a required methodology for preventing water contamination. Organic standards under the Organic Foods Protection Act and USDA rulemaking creates measurable approaches that can protect waterways.

EPA Must Not Allow Pesticides to be Discharged into U.S. Waterways until Water Quality Standards Are Set

EPA has made no provision for the restriction of pesticide discharge to waterways that are sources of drinking water. According to the U.S. Geological Survey (USGS), much of our nation’s waterways are contaminated with pesticides and other contaminants. The agency is aware of this as reflected in its factsheet. Accommodations and restrictions must be made to limit the amount of pesticide discharge that enters waterways and watersheds that feed local drinking water supplies.

Currently EPA has set water quality criteria for the protection of aquatic life and human health in surface water for approximately 150 pollutants, of which a handful are pesticides.⁷ The fact remains that most pesticides do not have water quality standards. Results from the USGS National Water-Quality Assessment Program (NAWQA) studies show that pesticides are widespread in streams and ground water sampled within agricultural and urban areas of the

⁵ U.S. GAO. 2001. Agricultural Pesticides: Management Improvements Needed to Further Promote Integrated Pest Management. GAO-01-815

⁶ USEPA. Integrated Pest Management. Available at <http://www.epa.gov/agriculture/tipm.html>

⁷ USEPA. National Recommended Water Quality Criteria. Available at <http://www.epa.gov/waterscience/criteria/wqctable/index.html>

nation. Water-quality standards and guidelines have been established for only about half of the pesticides measured in NAWQA water samples.⁸ The latest NAWQA report published in 2006 detected pesticides or their degradates in one or more water samples from every stream sampled. One or more pesticides or degradates were detected in water more than 90 percent of the time during the year in agricultural streams, urban streams, and mixed-land-use streams. These pesticide compounds analyzed in water by NAWQA included many of the most heavily used herbicides and insecticides, but they included only a fraction of all pesticides currently in use and few of their degradates.⁹ EPA can only mandate that applicators meet the water quality standards for the handful of pesticides that have water quality standards. Many pesticides that have standards are no longer used in the U.S. EPA must establish water quality standards under the CWA for pesticides that do not currently have standards. EPA's current proposal allows permittees to simply 'monitor' pesticide discharge to waterways (as outlined in the proposed permit), without establishing a compliance standard.

FIFRA product label requirements do not adequately take into account surface or drinking water quality and thus the agency must do more to address how discharges of pesticides and their degradates would be regulated under the NPDES permit if they do not have water quality standards set under the CWA.

According to NAWQA "Current standards and guidelines do not completely eliminate risks because: (1) values are not established for many pesticides, (2) mixtures and breakdown products are not considered, (3) the effects of seasonal exposure to high concentrations have not been evaluated, and (4) some types of potential effects, such as endocrine disruption and unique responses of sensitive individuals, have not yet been assessed."¹⁰ Until these issues have been addressed by the agency, EPA should not allow the discharge into U.S. waterways of pesticides without established water quality standards. This is essential to protect surface and drinking waters from pesticide pollution.

Conclusion

As Court ordered, EPA has designed a NPDES permit to cover pesticide discharges for certain use patterns. However there are many serious limitations to the proposed permit that the agency must address before the permit goes into effect in 2011. Ambiguous acreage thresholds, lack of adequate monitoring requirements and a general absence of water standards for the majority of pesticides used today means that the NPDES general permit does not provide adequate protection of surface and drinking waters from pesticide contamination. While Beyond Pesticides supports the need for permitting pesticide discharges, the agency must show a real commitment to the protection of aquatic and human health and address the issues highlighted above.

⁸ U.S. Geological Survey. 1999. The Quality of Our Nation's Waters-Nutrients and Pesticides: U.S. Geological Survey Circular 1225, 82 p.

⁹ Gilliom et al. 2006. The Quality of Our Nation's Waters—Pesticides in the Nation's Streams and Ground Water, 1992–2001: U.S. Geological Survey Circular 1291, 172 p.

¹⁰ Ref 8

Sincerely,

Nichelle Harriott
Beyond Pesticides
Washington, DC

Robina Suwol
California Safe Schools
Toluca Lake, CA

Michael Senatore
Defenders of Wildlife
Washington, DC

Virginia Ruiz
Farmworker Justice
Washington, DC

Caroline Ishida
Missouri Coalition for the Environment
Saint Louis, MO

Amy van Saun
Northwest Environmental Defense Center (NEDC)
Portland, OR

Bill Hamilton
Southern Horticulture
St. Augustine, FL