

MARYLAND MANAGED POLLINATOR PLAN

(MP3) PUBLIC COMMENTS RECEIVED

AND

RESPONSES

To whom it may concern:

As a beekeeper and farmer, I am happy to see that this issue is being addressed. The ideas and suggestions put forth in the Plan are excellent. My only concern is that this plan remain suggestion rather than yet another set of expensive rules that our farmers must follow, just to make a living! More regulations make our state less competitive for thriving, tax-paying businesses. Keep the taxes and the rules DOWN and the revenue will eventually go UP!

Regards,
Crystal Lehmanking

Ms. Lehmanking,

Thank you for your input. We agree that these issues are very important and we will do our best to keep providing useful information.

Sincerely,
MDA Pollinator Team

Overall, the report contains excellent information that will benefit native bees and other pollinators. A couple of high level suggestions.

The first would be to go into more depth about other types of pollinators that aren't bees and how to enhance their ability to provide pollinating benefits. This does not need to be an exhaustive part of the document, but rather more of a survey level.

The second point that I would like to make is about rights-of-way. The report touches upon rights-of-way, but really only references highways. In reality, utility rights-of-way (electric and gas) provide higher quality meadows than highways and have the added benefit of generally not being next to high speed vehicles that tend to kill bees and birds. Again as noted above, this does not need to be an exhaustive overview, but I believe that it would be helpful to reference some of the experience and data garnered by utilities and researchers in managing for more pollinator-friendly rights-of-way (BGE is in the process of converting our rights-of-way to biologically controlled Integrated Vegetation Mgmt. practices and has been cooperating with Patuxent (Sam Droege) and others to document the benefits to pollinators. By doing this, it might help to encourage utilities and regulators who oversee utilities to implement or encourage the implementation of more pollinator-friendly vegetation management practices.

Please let me know if you have any questions.

Thank you for the opportunity to comment.

William T. Rees, Jr.
Senior Business Analyst
Vegetation Management Unit
Baltimore Gas and Electric Company

Mr. Rees,

Thank you for your suggestions. We appreciate the suggestion to add more information about different types of pollinators. In addition, your suggestions for adding more information to the forage (right-of-way) section are well placed. Any additional information you may have regarding BGE's efforts with IVM would be greatly appreciated.

Sincerely,

MDA Pollinator Team

Comments on Maryland's Managed Pollinator Protection Plan

Luke Goembel Ph.D., July 9, 2016

As technology advances we benefit from improvements in our quality of life. We live longer lives due to improved nutrition and health care. We toil less due to the machines that do the work that once required muscle power. We cross continents in hours instead of weeks. However, the wise use of technology requires wise stewardship. Sometimes a technology that is helpful for one purpose yields unintended consequences. Such has been the case for lead additives leading to brain damage, Freon depleting the ozone layer, and thalidomide causing birth defects. Thus, we as a society hope that those we task with monitoring the effect of technology will be alert to problems the technology might cause. In the issue of pesticides and pollinators, the implicit trust that we have with our appointed environmental caretakers has been broken. That our trust has been broken is clearly demonstrated by Maryland's Managed Pollinator Protection Plan (MP3).

There is a troubling parallel between the history of lead additives in the U.S. and what we are seeing now with pesticides. In the 1930s the lead industries rejected scientific evidence, claiming there was no proof of causation between brain damage and lead paint use. They blamed the children and families as being irresponsible for allowing children to eat the paint chips, claiming that they were "sub-normal to start with." Rachel Carson's *Silent Spring* enraged the pesticide industry and she was derided as "hysterical" despite her fact-based assertions and scholarly demeanor. After President Kennedy's Science Advisory Committee investigated Carson's claims and recommended a phase-out of DDT, the EPA fought mightily for ten years against a ban on the toxin. We are seeing the same thing now with the pesticide industry and their attempts to foil those who would protect our pollinators. Those who manufacture, sell, and apply pesticides, and the groups that represent them (such as state agriculture departments) are bending over backwards, to make sure that pesticides continue to be dumped into our environment regardless of their effect on "non-target species." They ignore the vast body of peer-reviewed science that proves insecticides do, in fact, harm pollinators. The explosive growth in the use of systemic insecticides from their introduction in the 1990s to one-third of all pesticides used today is an example of a new technology run amuck. Systemic insecticides are extremely effective, long lasting, indiscriminant insect killers. By planting a toxin-coated seed, an entire toxic plant grows. It is no wonder that they are so popular and widely used by those that want to kill insects. However, a side effect is that they kill not only unwanted insects but other insects such as pollinators (and a wide range of invertebrates such as crabs), as well. They have been proven to kill pollinators even when used as directed. Our trust with our environmental caretakers has been broken because, much as was the case with DDT, the insecticide industry and their supporters have fought mightily, and succeeded, to dominate the dialog on the pesticide/pollinator issue within the halls of civil service. The industry supporters such as the Maryland Department of Agriculture and their associates such as Dr. van Englesdorp of the University of Maryland have ignored peer-reviewed science on the subject to make sure that pesticides remain blameless in debates about pollinator health.

It is apparent to me that the MP3 Summit served the purpose for which the Maryland Department of Agriculture designed it: it found pesticides blameless and placed the blame for pollinator declines on beekeepers. It was a farce to feature Dr. van Engelsdorp, an associate of one of the largest producers of insecticides (Monsanto), to lecture the audience of non-scientist “stakeholders” on his non-peer-reviewed “science” that suggested insecticides are blameless in bee deaths. It was a travesty to then ask the “stakeholders” to vote on the cause of bee deaths and, lo and behold, find pesticides blameless. I question the wisdom, and ethics, of the MP3 Summit planners.

The MP3 process started in 2014 when the President of the United States released a memorandum promoting the health of pollinators. That summer, the EPA set guidelines for the state Managed Pollinator Protection Plans. The Maryland Department of Agriculture (MDA) was given the opportunity to develop Maryland’s MP3. The Maryland Department of Agriculture teamed up with the University of Maryland in the beginning steps of developing Maryland’s MP3. In the MDA’s own words: “The most important piece of Maryland’s MP3 development process [was] the engagement of stakeholders. Opening lines of communication with numerous groups within the beekeeping industry is an integral part of creating a successful and sustainable pollinator protection plan.” The MP3 Summit was held on January 20th of this year to inform the stakeholders of the MDA’s and the University of Maryland’s views on pollinator protection and to get feedback from stakeholders.

The stakeholders at the MP3 Summit included a handful of Maryland beekeepers and many national representatives of pesticide producers, distributors, and applicators. Very few from academia were present, and of those that were, almost all were from the University of Maryland. At the beginning of the MP3 meeting, the Assistant Secretary of the MD Department of Agriculture revealed that no money was available to fund anything that would be in Maryland’s Pollinator Protection Plan. The result of that summit is Maryland’s Managed Pollinator Protection Plan, the document on which we can now comment. The document includes suggestions for beekeepers. Beekeepers are asked to “Consider adding an entrance reducer or mouse guard at hive entrances in the fall to prevent rodent damage,” and “Monitor for Varroa mites.” As a beekeeper and member of a beekeeper club, and someone who frequently speaks to other beekeepers, I want you to know that these are practices that are used even by those who have been experiencing devastating hive losses annually. Are these suggestions the best we can hope for to protect Maryland’s pollinators?

During the summit and in the Managed Pollinator Protection Plan document it is clear that, in MDA’s view, pesticides take a backseat to other things responsible for pollinator declines. Prioritizing insecticides as low on the list of pollinator stressors appears to be a goal of the insecticide industry and their cohorts. As scientifically ridiculous as it is to assign a numerical priority to pesticides, Varroa, or habitat, they just keep trying. An example of this is the polling of MP3 Summit participants (insecticide industry representatives, arborists, civil service bureaucrats, etc.) for the “most important” cause of pollinator deaths. The MDA’s view ignores a large and growing body of peer-reviewed science that implicates pesticides as a significant stressor on pollinators. The MP3’s suggestions to protect pollinators

from pesticides include: “Avoid spraying pesticides on blooming plants that are being visited by pollinators,” and “Before applying an insecticide to treat lawn pests, first mow to remove any clover or dandelion blooms that might attract pollinators. By the time flowering lawn plants regrow, insecticides will be less present in nectar and pollen.” Thus, the MP3 plan ignores the chemical action of systemic pesticides. Systemics include neonicotinoids, which make the entire plant poisonous and produces toxic nectar and pollen for months after application. 80% of the neonicotinoid pesticide applied to a seed leaches into the soil, accumulates there during repeated applications, and has a toxic half-life measured in many months or even years. The exposure of pollinators to neonicotinoids has been shown through numerous peer-reviewed studies to harm pollinators in a variety of ways, such as by making pollinators more susceptible to disease. It may well be that we can check for and treat for Varroa mites frequently and install mouse guards each fall and still have economically unsustainable hive losses each year due to pollinator-harming pesticide use in Maryland. And what about the non-honeybee pollinators? They have been shown to be even more susceptible to harm from systemic pesticides.

As a fatal flaw in the MP3, the unfunded protection plan depends entirely on voluntary adherence to its guidelines. How many homeowners or farmers will mow to remove blooms that might attract pollinators before applying insecticides? If neonicotinoids are applied by a lawn service or are present in the soil after agricultural applications mowing away blooms before application will be of little help. Neonics will be present in pollen and nectar the plants produce long after the toxin is applied. And in what way does Maryland’s MP3 address the killing of my bees by for-hire residential mosquito spraying services that (every three weeks) saturate neighborhoods with vast quantities of a parathyroid that has “bees” listed on the label among the “pests” it kills? The reaction from the Maryland Department of Agriculture when I reported the death of almost all of my foraging bees last year was that the applicators were working entirely within the law and that there was nothing I could do to prevent future losses. Is this Maryland’s plan to protect pollinators? Do nothing?

It is clear to me that the Managed Pollinator Protection Plan was doomed to be ineffective from the start. In the words of the MDA in their testimony against the Pollinator Protection Act of 2016: “We will use the final report on all stakeholder input to draft a plan that protects pollinators and allows stakeholders to operate successfully.” A large proportion of their stakeholders are those that produce, sell, or use pollinator-harming pesticides. How could MDA possibly satisfy both parties: those who promote the widespread use of bee-harming pesticides and those who would like to protect pollinators from them? The pesticide industry has learned from their failures of the past, such as the successful banning of DDT. Unlike in the 1960s, when scientists were allowed to review the scientific facts and recommend a ‘technology run amuck’ be phased out, the idiotic “stakeholder polling” that has replaced science assures the pesticide industry that they can continue to reap profits at the expense of your, my, and our children’s future. A result is the toothless, unfunded, pesticide-whitewashing, MP3 that has been presented for public comment.

Dr. Goembel,

Thank you for your input on the Maryland Pollinator Protection Plan. We would appreciate more focused input on what you would like to see in the plan. Most of the comments were on the MP3 Stakeholder Summit process, in which we are that you were displeased. The Maryland Department of Agriculture's Pesticide Regulation Section regulates the use of pesticides according to the pesticide label. Any pesticide misuse in regards to harming pollinators (or any misuse in general) will have consequences. We are waiting for the remainder of EPA's preliminary risk assessments for neonicotinoid pesticides before we pursue additional regulations.

Sincerely,

MDA Pollinator Team

Dear Sir,

As a home gardener, native plant enthusiast, and Master Gardener, living in Garrett County, I felt the plan is well thought out and covers a number of relevant topics. I am including contact information for three native plant sources not included in the plantnative.org website:

Enchanter's Garden Native Plant Nursery – Hinton, West Virginia
www.enchantersgarden.com

Go NativeTree Farm- Lancaster Pennsylvania
www.gonativetrees.com

Mount Savage Farm and Nursery – Mount Savage, Maryland
Mt.Savage.F.a.N@hotmail.com

I also came across some information that gives effects of specific insecticides on bees that I found very helpful:

Invertebrate Conservation Fact Sheet. Organic-Approved Pesticides

<http://www.xerces.org/wp-content/uploads/2009/12/xerces-organic-approved-pesticides-factsheet.pdf>

Thank you
Donna Gates

Ms. Gates,

Thank you very much for the additional information. We will look into the resources you provided.

Sincerely,

MDA Pollinator Team

I am writing to submit comments on the Maryland Pollinator Protection Plan, available as a PDF on the Maryland Department of Agriculture website. The document provides general advice to beekeepers, home gardeners, and farmers. The document does not, however, contain an actionable plan to be followed by the State of Maryland. To quote from the document itself:

"It is important to start a habitat project with a plan that outlines short- and long-term goals, so that a management strategy can be designed to meet these goals. " (p. 14)

The document does not contain any short-or long-term goals, nor management strategies. Thus it really should not be called a "plan." In its present state, it is only a general resource document.

In addition, the document is weighted toward commercial beekeeping and agriculture. Not much useful information is provided for natural areas and native species of pollinators in the State of Maryland.

I would like to see the Department of Agriculture work with the Maryland Department of Natural and other stakeholders in the conservation community to address these shortcomings.

Thank you for the opportunity to comment.

Marcia Watson

Ms. Watson,

Thank you for your input. We will look into ways to reduce confusion on the purpose of this document. We will also look into adding further information as you suggested in you comments

Sincerely,

MDA Pollinator Protection Plan



July 21, 2016

Ms. Ashley Jones
Maryland Department of Agriculture
50 Harry S. Truman Parkway
Annapolis, MD 21401

Dear Ms. Jones

Thank you for the opportunity to comment on the Maryland Pollinator Protection Plan. We appreciate your work to prepare the draft and your efforts to involve a variety of stakeholders in the process.

We support the draft plan as it is written and commend Maryland Department of Agriculture for its work in ensuring the plan's development process is transparent. We appreciate your balanced understanding of the issue and feel the plan reflects the reality that many factors affect pollinator health. We also appreciate the plan's focus on managed bees, which can be readily supported by best management practices and whose populations can be easily measured and assessed.

We also agree that creating habitat and forage will help support pollinators. Roadsides and rights-of-way can be maintained with Integrated Vegetation Management (IVM) and can provide much of the land needed for pollinator forage. Further, simple best management practices for pesticide applicators can ensure applicators are applying products in ways that minimize risks to pollinators and maximizing available forage for bees.

Thank you for reviewing our comments, and we look forward to the publication of the final plan.

Sincerely,

Aaron Hobbs
President
RISE, Responsible Industry for a Sound Environment
1156 15th Street, NW
Suite 400
Washington, DC 20005
Phone: 202-872-3860

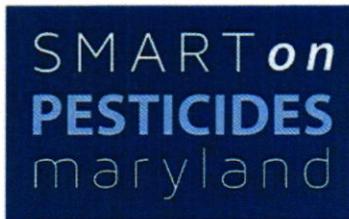
RISE is a national not-for-profit trade association representing more than 220 producers and suppliers of specialty pesticide and fertilizer products to both the professional and consumer markets. RISE member companies manufacture more than 90 percent of domestically produced specialty pesticides used in the United States, including a wide range of products used on lawns, gardens, sport fields, golf courses, and to protect public health.

Mr. Hobbs,

Thank you for your input. We appreciate your comments and hope to provide helpful and relevant information to many different stakeholder groups.

Sincerely,

MDA Pollinator Team



Website: www.smartonpesticides.org
Facebook: <http://on.fb.me/Ut6rrX>
Twitter: @PesticidesSmart #beesafe

Contact: Ruth Berlin, Maryland Pesticide Education Network, 410-693-7319,
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July 22, 2016

The Honorable Joseph Bartenfelder
Secretary
Maryland Department of Agriculture
50 Harry S. Truman Parkway
Annapolis, MD 21401

Re: Comments on Maryland Department of Agriculture's Managed Pollinator Protection Plan

Dear Secretary Bartenfelder,

The Smart on Pesticides Coalition, made up of 77 organizations, groups and businesses, and multiple beekeeper associations' appreciate the opportunity to comment on the 2016 Maryland Managed Pollinator Protection Plan. We have several concerns and recommendations regarding the Plan (MP3) released on June 25, 2016 for public comment. We believe that Maryland needs a constructive and comprehensive Pollinator Protection Plan to address the serious pollinator decline in the state.

Voluntary, not regulatory actions

As noted in the proposed MP3 plan, "At the President's request, the Environmental Protection Agency (EPA) has engaged state agencies in developing Managed Pollinator Protection Plans to mitigate risk to honey bees and other managed pollinators." Perhaps our biggest concern is that the **Maryland MP3 is not a plan**, but rather a compilation of suggestions. It has no provision for new funding, programs or regulations to accomplish any of its proposed protections for pollinators. The plan depends entirely on voluntary adherence to its guidelines and does little to address the growing influence of pesticides on pollinator populations. State pollinator protection plans "have the flexibility to determine the scope ...that best responds to pollinator issues in their regions... (including) risks to all pollinators , including managed bees and wild pollinators".

Incomplete data on bee hive losses

The Maryland MP3 contains a serious error regarding the extent and gravity of bee losses in our state in 2014-2015. A graphic describes ONLY beekeepers' "winter losses." By restricting attention to winter, when most losses historically occurred, it avoids mention of pesticide losses, which occur mostly during warm weather. Last year, the Bee Informed Partnership (BIP) stated that, for the first time, summer and fall losses exceeded winter losses. Summer and fall losses should be included in the graph. It is annual losses that matter, not merely the bee deaths that occur in one season. The graph shows losses of 41%; BIP and USDA reported losses of 61% in Maryland for 2014-2015.

The MP3 also contains misleading information in stating that honeybee population numbers have started to increase slightly in the last few years (Figure 1). They fail to note that these numbers reflect beekeepers' purchases of new starter hives to replace lost colonies--often 2 or 3 new hives are purchased for each dead hive to account for the "new normal" of high colony mortality, averaging 60%, over the coming year.

Little mention of role of pesticides on bee health

A preponderance of science has confirmed that pesticides, especially [neonicotinoid \(neonic\) systemic pesticides](#), play a significant role in the alarming rates of pollinator deaths. The danger to pollinators from neonics was recently noted in [EPA's preliminary review of imidacloprid](#), yet mitigating this critical factor is not addressed in the proposed plan.

The current Maryland MP3 draft ignores the significant role pesticides play and makes no reference to the [science regarding pesticides, specifically neonicotinoids](#)¹ even in light of the recent EPA preliminary determination noted above.² While the MP3 states, "Parasites, improper nutrition and pesticide exposure are compounding issues that can make colonies more susceptible to disease," it fails to detail **how** pesticides make colonies more susceptible. Peer-reviewed research has confirmed neonics weaken the immune systems of pollinators as well as impairing cognition, reproduction, navigation, and other critical functions.

Lack of guidance on adequate protection from pesticides

While the MP3 includes suggestions to protect pollinators from pesticides, for the most part, these suggestions do not provide adequate protection. For example, the MP3 suggests: "Avoid spraying pesticides on blooming plants that are being visited by pollinators," and "Before applying an insecticide to treat lawn pests, first mow to remove any clover or dandelion blooms that might attract pollinators.

¹ Task Force on Systemic Pesticides; <http://www.tfsp.info>

²<https://yosemite.epa.gov/opa/admpress.nsf/d0cf6618525a9efb85257359003fb69d/63e7fb0e47b1aa3685257f320050a7e3!OpenDocument>

By the time flowering lawn plants regrow, insecticides will be less present in nectar and pollen.” **This suggestion ignores the chemical action of systemic pesticides.** Systemic pesticides, including neonics, make the entire plant poisonous and produces toxic nectar and pollen for months after application. **80% of the applied neonics leach into the soil, accumulate there during repeated applications, and have a toxic half-life measured in many months or even years³.**

In several sections of the MP3, creating pollinator habitat by planting a diverse array of flowers and implementing other simple practices to attract flower visitors including honeybees, butterflies, native bees and hummingbirds are noted. Improving pollinator nutrition by planting forage is an important element of an MP3 plan. However, this will only be a worthwhile endeavor if the MP3 underscores that **plantings (seeds and seedlings) should be free of having been treated with pesticides known to harm pollinators, including neonics.** Unknown to most consumers, many seedlings and plants are now treated with neonics, and in some cases – sunflowers, for instance, the majority of seeds are treated. The MP3 also notes that “Blooming cover crops like clovers and alfalfa can serve both grazers and pollinators.” Even cover crop seeds planted specifically for pollinators – notably buckwheat and certain clovers - are also now neonic-treated.

The plan should note that seeds planted should be neonic-free, otherwise they could actually harm and kill bees. Peer-reviewed science has shown neonics to also be toxic to birds, in particular when used as a seed coating, and heavy use of neonics to be associated with declines in insectivorous birds.^{4 5 6}

Lack of information on role of pesticides and Varroa mites

The Plan deflects blame from pesticides onto Varroa mites, as a primary concern, when it comes to bee deaths and focuses simply on treating for Varroa mites. It fails to note that neonic exposure weakens the bees’ immune system making them more susceptible to Varroa mites and the viruses they carry and that pesticides have been found to make Varroa mites more virulent. Previously benign viruses and parasites causing minor damage become killers to bees affected by neonics. In April 2015, the European Academies Science Advisory Council, referring

³ - <http://onlinelibrary.wiley.com/doi/10.1111/1365-2664.12111/full>

⁴ Mineau, Pierre and Cynthia Palmer, The Impact of the Nation’s Most Widely Used Insecticides on Birds, American Bird Conservancy, March 2013, http://abcbirds.org/wp-content/uploads/2015/05/Neonic_FINAL.pdf

⁵ Gibbons, David, Christy Morrisey, and Pierre Mineau. A review of the direct and indirect effects of neonicotinoids and fipronil on invertebrate wildlife *Environmental Science and Pollution Research* January 2015, Volume 22, Issue 1, pp 103-118 <http://link.springer.com/article/10.1007/s11356-014-3180-5/fulltext.html>

⁶ Hallman, Caspar, and Ruud Foppen, Chris van Turnhout, Hans de Kroon, Eelke Jongejans, Declines in insectivorous birds are associated with high neonicotinoid concentrations, *NATURE*, vol 511, issue 7509, 9 July 2014, <http://www.seo.org/wp-content/uploads/2014/08/nature-y-neonicotinoides-2014.pdf>

to the results of Di Prisco et al.'s research, concluded "that neonicotinoids cannot be considered as the only 'cause' of Colony losses, but they can aggravate the impact of viral pathogens, stably associated with honeybee colonies all over the world."

All pollinators are suffering losses, but only honeybees are afflicted with Varroa mites. Furthermore, while honeybees have been thought to be more susceptible to harm from systemic pesticides than some native insect pollinators, [a recent field study, published in Nature](#) found that wild bee populations exposed to Imidicloprid showed losses over 50%. Despite that many beekeepers use best management practices, such as checking and treating for Varroa mites frequently and installing mouse guards each fall, they still have economically unsustainable hive losses each year due to pollinator-harming pesticide use in Maryland.

In addition, under the section "Improving Habitat for Pollinators" the MP3 rightly notes that "Minimizing the use of pesticides can reduce negative effects on beneficial species including pollinators. Do not drift off target; it is a violation of state law." **This is important information and it should be fleshed out with more detail.** Under the section "Pesticides and Avoiding Drift" the MP3 states: "Be aware of pesticide labels that contain language like "highly toxic to bees," "toxic to bees" and "extended residual toxicity." **The recommendation here should be that pesticides known to be toxic to bees should simply not be used.** Homeowners and farmers are urged to mow to remove blooms that might attract pollinators before applying insecticides. If neonics are applied by a lawn service or are present in the soil after agricultural applications, mowing away blooms before application will be of little help. Neonics will be present in pollen and nectar that the plants produce long after the toxin is applied. Mowing away blooms which provide food to their pollinators is something a farmer would not wish to do. Landowners should not be encouraged to mow and use pesticides, under the guise of helping the natural habitat.

In order for this plan to be truly impactful, it should address the need to protect **all** bees and pollinators from pesticides, not just managed bees under contract for pollination.

A viable pollinator protective plan should include the following:

- **Public education** – In a recent LA Times article, several key points were made regarding how to educate the public about protecting the bee population, such as encouraging the public to discontinue their use of synthetic pesticides, insecticides and herbicides⁷: "Don't use synthetic pesticides, insecticides and herbicides. They're known as harmful to bees and can reduce foraging, navigating abilities, fecundity, reproductive success and impair development, as well as being potentially lethal, says

⁷ Six easy ways you can help the bees" <http://www.latimes.com/home/la-hm-0604-how-to-plant-a-bee-garden-20160531-snap-story.html>

Jessa Kay Cruz, senior pollinator conservation specialist for the Xerces Society. "Limit [them] not just for bees but for all insects in your yard," advises Lisa Gonzalez of the entomology department at the Natural History Museum of Los Angeles County. "The vast majority of insects are beneficial or at the least benign; very few are truly problematic pests." Native plants are already much less likely to have infestation issues and if they do, she says, let natural predators and parasites do their job.

- **Samples for Pesticide Analysis** - In cases of suspected bee kills, beekeepers should be urged to provide samples for pesticide analysis and sampling kits and instructions should be given to registered beekeepers by MDA. EPA guidance concerning the collection of bee samples for chemical analysis should be adopted and followed.⁸
- **Pesticide Usage Reporting** - All certified pesticide applicators and farmers should be required to report their pesticide use to create a comprehensive online database for researchers who need to know which, when and where pesticides have been applied. MDA has dedicated annual funding, resulting from 2014 legislation, providing funding for "collecting, assessing and reporting pesticide use in the state." Such data is critically needed to adequately monitor the impacts of pesticides on pollinators as well as on the Bay, the environment and public health.
- **Accounting for the Impact of Synthetic Pyrethroids on Pollinators** - MDA's mosquito control program needs to take into account data regarding the impact of synthetic pyrethroids on pollinators^{9 10}. MDA should focus on public education regarding removal of larval habitat sources and treatment of larvae (not adults) and ensuring that commercial applicators who provide mosquito control services do not use products known to harm bees. Several Maryland companies who specifically offer mosquito control services use a product called "CYZMIC CS", a synthetic pyrethroid recommended for killing bees along with other "pests" at the same concentration recommended for killing mosquitoes.¹¹
- **Regulation for Labeling** - In order to adequately protect our pollinators, implementing regulations to label seeds, plants and seedlings, which have been pre-treated with neonics, will help consumers and farmers make educated purchasing decisions. Produce farmers may unknowingly purchase neonic-treated seeds and seedlings, resulting in their crop becoming dangerous fields for the pollinators their crops depend on. This

⁸ <https://www.epa.gov/sites/production/files/2013-09/documents/bee-inspection-guide.pdf>

⁹ Ping-Li Dai et al. 2010. Effects of sublethal concentrations of bifenthrin and deltamethrin on fecundity, growth, and development of the honeybee *Apis mellifera ligustica*. *Environ. Toxicol. Chem.* 2010: 644-649.

¹⁰ Baron, G. L., Raine, N. E. and Brown, M. J. F. (2014), Impact of chronic exposure to a pyrethroid pesticide on bumblebees and interactions with a trypanosome parasite. *J Appl Ecol*, 51: 460-469. doi:10.1111/1365-2664.12205

¹¹ [http://www.doyourownpestcontrol.com/SPEC/LABELS/Cyzmic%20CS%20Specimen final 201006101414.pdf](http://www.doyourownpestcontrol.com/SPEC/LABELS/Cyzmic%20CS%20Specimen%20final%20201006101414.pdf).

lack of awareness is likely due in part to the recent explosion – the last year or two- in the plants and seeds to which neonics have been applied.

- **Expanded Training** - Pesticide Applicators should receive expanded training on protecting pollinators from pesticides/herbicides and information concerning local forage areas where bloom is attractive to pollinators. Pesticide applicators should NOT apply any spray or ground pellets in adverse weather conditions under any circumstances, and should only apply potentially bee toxic pesticides at night, (or) when flowers are not in bloom and bees are not foraging. Penalties should be put in place for applicators who do not comply.
- **Limited Pesticide Use** - A serious shortcoming of the MP3 is that it does not limit pesticide use near bee hives nor penalize those who poison bees. Beekeepers' livelihoods can be wiped out in a day, and they have no recourse. Beekeepers should notify adjacent farmers of bee hives near their property, to the best of their ability, and farmers should notify nearby beekeepers when they are applying pesticides and of their spraying schedule, so that if colonies are impacted, critical data will be available to the farmer, beekeeper and apiary inspector in a timely manner. Farmers are also impacted by pollinator losses. Members of Maryland's vegetable and fruit farming community, who rely on both managed and native bees for pollination of their cash crops, voiced their concern regarding natural pollinator losses they have recently observed, during 2016 Maryland General Assembly hearings on the Pollinator Protection Act.
- **Partnerships with all agencies overseeing public lands** - State agencies should be encouraged to incorporate **neonic-free** pollinator habitat into their operations. There is a need to expand populations of plants suitable for bee/pollinator forage in areas such as highway medians and other widened roadways, as well as under power lines. This necessitates requiring such areas not be sprayed with pesticides or herbicides. Pesticides and herbicides should not be used and mechanical methods alone should be used to clear power lines.
- **Pesticide Oversight** - The governmental role in addressing the impact of toxins in managing pollinators as well as addressing the impacts of toxins on human health, the Bay and the environment should be driven by a Maryland agency specifically tasked with addressing the impacts of toxins on health and the environment and the protection of wildlife. In Maryland, this oversight would best fall under the Maryland Department of the Environment

Lack of Representative Stakeholder Input

The Maryland stakeholder meeting noted in the MP3 as a 'guiding force' for this plan had insufficient and unequal representation of beekeepers, organic and produce farmers, and independent scientists and entomologists with expertise on

risk factors for bees. Of the 70 stakeholders, only 11 were beekeepers and only 2 were farmers and neither the organic farming community nor the Eastern Shore farming community were represented. The other stakeholders included representatives of pesticide producers, distributors, and applicators as well as state government agency representatives, many of whom had very little knowledge of pollinators to base their recommendation for pollinator protections on.

The keynote presenter, Dr. Dennis Van Engelsdorp, director of the UMD Bee Informed Partnership, asserted the pesticide manufacturing industry perspective that pesticides are not the issue, but rather the issue is the Varroa mite. Dr. Van Engelsdorp sits on the Monsanto Bee Health Advisory Council and therefore has an apparent conflict of interest when it comes to assessing pesticides used and sold by Monsanto.¹² His slide presentation at the MP3 Stakeholder Summit included Monsanto-published slides emphasizing the role of Varroa mites and downplaying the role of neonics.

We strongly urge the Maryland Department of Agriculture to revise the MP3 to address all of the concerns outlined in this letter and we also feel that any pollinator protection plan should be approved by the majority of the beekeeping clubs within Maryland due to the direct and overwhelming impact of Maryland pollinator protections to the livestock of beekeepers.

The undersigned expect that the Maryland Department of Agriculture will respond to public comments in a public fashion just as if this was a new regulation.

The [Smart on Pesticides Maryland](#) coalition works to protect Marylanders and the natural systems we depend upon from the toxic impacts of pesticides. The coalition includes more than 75 organizations, and institutions representing communities, businesses, health care providers, farmers, environmentalists, waterkeepers, interfaith congregants as well as environmental justice, public health and wildlife advocates.

Sincerely,
American Public Health Association, MD
Chapter
Alliance of Nurses for a Healthy
Environment
Anacostia Watershed Society
Anne Arundel Beekeepers Association
Assateague Coastal Trust
Audubon Naturalist Society
Baltimore Backyard Beekeepers Network
Baltimore Bird Club

¹² http://www.monsanto.com/sitecollectiondocuments/csr_reports/monsanto-2014-sustainability-report.pdf p.67

Big City Farms
Bowie-Upper Marlboro Beekeepers
Association
Beyond Pesticides
CATA/Farmworker Support Committee
Carroll County Beekeepers Association
Cecil Bird Club
Center for Food Safety
Central Maryland Beekeepers Association
Central Maryland Ecumenical
Council/Ecumenical Leaders Group
Chesapeake BaySavers
Chesapeake Food and Community Health
UMD, School of Medicine; Center for
Integrative Medici
Chesapeake Physicians for Social
Responsibility
Clean Bread and Cheese Creek
Clean Water Action
Cottingham Farm
Crossroads Community Food Network
Environment Maryland
F&D and Charles Smith Apiaries.
Fair Farms
Farmworker Justice
Food and Water Watch
Fox Haven Farm and Learning Center
Friends of Briers Mill Run
Friends of the Earth
Friends of Quincy Run
Friends of Lower Beaverdam Creek
Greenbelt Forest Preserve Butterfly
Brigade
Hampden Community Council
Hereford Bed and Biscuit
Howard County Beekeepers Association
Howard County Bird Club
Interfaith Partners of the Chesapeake
Johns Hopkins Center for a Livable Future
Karma.Farm

KW Landscaping
League of Women Voters of Maryland
Lower Susquehanna Riverkeeper
Maryland Bass Nation
Maryland Conservation Council
Maryland Environmental Health Network
Maryland League of Conservation Voters
Maryland Nurses Association
Maryland Organic Food and Farming
Association
Maryland Ornithological Society
Maryland Pesticide Education Network
Maryland Public Interest Research Group
Maryland United for Peace and Justice
Maryland Watermen's Association- Anne
Arundel County Chapter
MOM'S Organic Market
Migrant Clinicians Network
Montgomery Countryside Alliance
National Aquarium
Organic Consumers Association
Pesticide Action Network North America
Potomac Riverkeeper
Queen Anne's Conservation Association
Rachel Carson Council
Rodale Institute
Ruscombe Community Health Center
SafeGrow Montgomery
Sierra Club – Maryland Chapter
Spa Creek Conservancy
Tha Flower Factory
Towson Estates Association
Trout Unlimited
Westport Farmers Market
Westport Neighborhood Association
West/Rhode Riverkeeper
Wicomico Environmental Trust

Additional Signators

Hartmut Doebel, PhD
The George Washington University
Biological Sciences; Bee Research Lab

April M. Boulton, Ph.D.
Associate Dean of the Graduate School at
Hood College: Associate Professor of
Biology

Maryland Farmers Market Association

Upper Shore Beekeeper's Association

Anne Arundel Bird Club

Lise Van Susteren, M.D.
CEO Lucky Planet Foods, Inc.

Lorne Garrettson, M.D.
Pediatrician and Medical Toxicologist

Ms. Berlin and Ms. Raindrop,

Thank you for your thorough and focused comments. We appreciate this type of specificity when revising the document. We will look into ways to reduce the confusion on the purpose of this document. We will also provide additional information on the Bee Informed Partnership's MD loss data. We are waiting for the remainder of EPA's preliminary pollinator risk assessments for neonicotinoid pesticides before we pursue additional regulations or specifics on neonicotinoid pesticides. We will take into consideration all the listed components under "A viable pollinator protective plan should include the following:" We are sorry that you are displeased with the stakeholder representation at the MP3 Stakeholder Summit. It may be worth mentioning though that the Bee Informed Partnership (as well as the requested data) was founded by and still largely run by Dr. Dennis VanEngelsdorp.

Sincerely,

MDA Pollinator Team



BEYOND PESTICIDES

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July 22, 2016

Secretary Joseph Bartenfelder
50 Harry S. Truman Parkway
Annapolis, MD 21401

Re: Recommendations for the Maryland Pollinator Protection Plan

Dear Secretary Bartenfelder,

Beyond Pesticides is a national non-profit organization that works to advance improved protections from pesticides and alternative pest management strategies that reduce or eliminate a reliance on toxic pesticides. We are pleased to submit the following recommendations for your consideration, on behalf of our membership in the state of Maryland, for the state's Pollinator Protection Plan.

As you know, the nation's pollinators are in decline. Many factors are being attributed to pollinator decline, central among them is the use of systemic pesticides that are highly toxic to honey bees and other pollinators. With the recent passage of the Maryland Pollinator Protection Act, Maryland is the first state in the nation to produce and pass legislation to protect pollinators from harmful bee-toxic pesticides. The law now prohibits Maryland residents from buying pesticide products that contain neonicotinoid active ingredients - a class of insecticides that has been identified as being highly toxic to bees. However, with bee losses at 46.3% (April 2014-March 2015) in Maryland, higher than the national average (42.1% for 2014-2015) according to national surveys,¹ the state now has a prime opportunity and responsibility to go another step further to develop a pollinator protection plan that is strong and protective of pollinators. The plan should build upon current efforts to protect the state's pollinator populations.

The current plan, "The Maryland Pollinator Protection Plan," drafted by the Maryland Department of Agriculture (MDA)² recognizes that current losses in Maryland are "not economically sustainable for our beekeeping industry," and that "not only managed pollinators should be considered when discussing pollinator health in Maryland." Further, the importance

¹ Bee Informed Partnership. 2016. Losses by State <https://beeinformed.org/wp-content/uploads/2015/09/LossesByState-RF.pdf>

² MDA. 2016. The Maryland Pollinator Protection Plan. <http://mda.maryland.gov/plants-pests/Documents/MP3-Pollinator-Plan.pdf>

of pollination services to agriculture was outlined in the document, identifying that higher yields occur when both honey bees and wild bees are present.

The document describes improving pollinator habitat, beekeeping, maximizing pollinator health and services on farms, as well as other sites including roadways and open spaces. While these recommendations are sound, they fail to seriously address the real risks pollinators face from continued and systemic pesticide contamination.

Background

There is a mounting body of scientific evidence which indicates that neonicotinoid pesticides are harmful to bees, impairing their foraging and learning behavior, and suppressing their immune system, making them more susceptible to parasites and disease. As a result of the systemic nature of neonicotinoids, these chemicals cause indiscriminate poisoning through pollen, nectar, and guttation droplets. Additionally, they have prolonged residual toxicity and can contaminate pollen, nectar, and honey,³ as well as persist in soil and surface waters, affecting other beneficial terrestrial and aquatic organisms.^{4,5,6} Neonicotinoids, like the popular imidacloprid –found in many garden and greenhouse products, as well as used in agriculture– has a half-life that ranges from 200 days to more than a year in soil,⁷ and will remain in the environment for long periods of time. The U.S. Environmental Protection Agency’s (EPA) recent pollinator risk assessment for imidacloprid confirms that the chemical is highly toxic to honey bees and contaminates the pollen and nectar of crops that bees forage.⁸

These chemicals also contaminate and persist in the environment. Clothianidin, for instance, used widely as a seed treatment, has an extended persistence in soils with terrestrial field dissipation half-lives ranging from half a year to several years, and could accumulate in soils with repeated uses.⁹ Similarly, the U.S. Geological Survey (USGS) finds these pesticides frequently in surface waters.¹⁰ In addition to persistence, sprayed pesticide residues can drift

³ Lu, C, Chang, C, Tao, L and Chen M. 2015. Distributions of neonicotinoid insecticides in the Commonwealth of Massachusetts: a temporal and spatial variation analysis for pollen and honey samples. *Environ Chem*. <http://dx.doi.org/10.1071/EN15064>.

⁴ Van der Sluijs J.P., et al. 2014. Conclusions of the Worldwide Integrated Assessment on the risks of neonicotinoids and fipronil to biodiversity and ecosystem functioning. *Environ Sci Pollut Res*, doi:10.1007/s11356-014-3229-5.

⁵ Hladik, M and Kolpin, D. 2015. First national-scale reconnaissance of neonicotinoid insecticides in streams across the USA. *Environ Chem* <http://dx.doi.org/10.1071/EN15061>.

⁶ Morrissey, C. et al. 2014. Neonicotinoid contamination of global surface waters and associated risk to aquatic invertebrates: A review. *Environment International* <http://dx.doi.org/10.1016/j.envint.2014.10.024>.

⁷ USEPA. 2016. Preliminary Pollinator Assessment to Support the Registration Review of Imidacloprid. Office of Chemical Safety and Pollution Prevention. Washington DC.

⁸ USEPA. 2016. Preliminary Pollinator Assessment to Support the Registration Review of Imidacloprid. Office of Chemical Safety and Pollution Prevention. Washington DC.

⁹ USEPA. 2005. EFED Registration Chapter for Clothianidin for use on Potatoes and Grapes as a spray treatment and as a Seed Treatment for Sorghum and Cotton. Office of Pesticide Programs, Washington DC.

¹⁰ Hladik, M and Kolpin, D. 2015. First national-scale reconnaissance of neonicotinoid insecticides in streams across the USA. *Environ Chem* <http://dx.doi.org/10.1071/EN15061>.

from treated fields in various ways, including via contaminated dust resulting from sowing treated seeds. Unfortunately, pesticide drift continues to be a problem that EPA has been unable to sufficiently mitigate, creating non-target exposures. While Maryland's draft plan acknowledges the risks posed by pesticide drift, the fact remains that drift is inevitable with pesticide use and poses environmental risks.

EPA has also recognized the toxicity of these chemicals and consequently amended their product labels. The agency has proposed a temporary prohibition on foliar application of pesticides highly toxic to honey bees when managed bees are on site. However, states have the ability to take stronger action, and Maryland, while already limiting the sale of neonicotinoid products to consumers, should move to further limit the sale and use of neonicotinoid-treated seeds and seedlings. Contrary to the plan recommendation, coated seeds are not a good option for minimizing harm to pollinators, and **should not** be a recommended guideline. In fact, the planting of coated seeds contaminates not only the soil that soil dwelling bees rely on, but also contaminates nearby forage areas, wild plants, and even water sources for bees. Residue movement from the soil to the flower, and surface contamination of flowers from fugitive seed dust from planters, put bees at risk.¹¹

In light of some of the shortcomings of Maryland's Pollinator Protection Plan, we put forth the following recommendations:

1. Protect and monitor native pollinators.

The state recognizes that all bees and pollinators must be equally protected, not just managed bees under contract for pollination. While managed bees are an integral part of U.S. agriculture and honey production, wild bees, like bumble bees, and other pollinators, like birds and butterflies, are also at risk. Wild pollinators are most affected by pesticides after plant bloom periods, as they continue to forage in and around treated areas after managed colonies have moved on. Data suggests that certain bee species are more sensitive to pesticides than honey bees.¹² To get a better understanding of these native populations and the risks they face, the state should create a monitoring program, in collaboration with universities, the extension service, and appropriate private or non-governmental agencies, to track and monitor the health of native populations, adverse incidents, and the environmental factors that threaten their long-term survivability.

2. Create pollinator habitat that is also free of pesticide contamination.

The state describes the benefits of improving pollinator habitat through the planting of diverse flowering habitat and the creation on diversified fields and hedgerows on farms. Also described is increasing native plant propagation and habitat along roadsides and other rights-of-ways. However, it is unclear how the state plans to implement the creation of pollinator habitats.

¹¹ Krupke CH, Hunt GJ, Eitzer BD, Andino G, Given K. 2012. Multiple Routes of Pesticide Exposure for Honey Bees Living Near Agricultural Fields. *PLoS ONE* 7(1): e29268. doi:10.1371/journal.pone.0029268.

¹² Rundolf, M, Anderson R, Bommarco, I, et al. 2015. Seed coating with neonicotinoid insecticide negatively affects wild bees. *Nature* 521:77-80.

Importantly, integral in the creation of these habitats is the need to ensure that these areas are free of toxic chemical inputs that contribute to pollinator decline. These areas must be created and/or managed without bee-toxic pesticides. Instead, alternative management strategies are available, including the judicious use of least-toxic pesticides, and mechanical and biological options (including goats) that are also cost-effective in the long-term.

3. Improve enforcement and compliance across the state.

Enforcement and compliance are integral to environmental laws, especially the *Federal Insecticide Fungicide and Rodenticide Act (FIFRA)*, and Maryland is responsible for the enforcement of FIFRA-related actions. Maryland, like other states, can impose additional restrictions on pesticide product registrations for product use. We suggest the state review and create pollinator specific label statements for pesticide products registered in Maryland that are enforceable by state enforcement officials and can result in total compliance. These statements can and should include statements restricting products or applications that pose risks to pollinators.

Conclusion

The current draft of Maryland's pollinator plan does not go far enough to protect the state's pollinators. We recommend MDA incorporate the above suggested recommendations to strengthen the plan. Additionally, MDA needs to be clear on how it expects to ensure compliance with these guidelines, and how it will establish metrics to evaluate and monitor the effectiveness of these measures.

In light of recent federal actions that have not gone far enough to protect these beneficial creatures, states must take stronger, more meaningful action. Given the high level of pollinator decline in Maryland, the state has a special responsibility to act with guidelines and standards that restrict neonicotinoids more stringently than the federal government.

The recommendations provided on behalf of our membership in Maryland will help the state lead the rest of the nation on pollinator protection efforts. Measures that restrict the most widespread use of bee-toxic pesticides and provide pesticide-free pollinator habitat will go a long way in helping to reduce pollinator losses across the state.

Please feel free to contact me or any member of Beyond Pesticides' staff at 202-542-5450 or info@beyondpesticides.org for any questions about these recommendations or technical assistance on finalizing the pollinator plan.

Respectfully,



Nichelle Harriott
Science and Regulatory Director

Ms. Harriott,

Thank you very much for the recommendations you provided. We will look into forms for monitoring programs and collaborations for native pollinators. We are in the beginning states of inter-agency pollinator forage planting collaborations but will try to outline more details on this process as they become available. We will also take into consideration the recommendation titled "Improve enforcement and compliance across the state."

Sincerely,

MDA Pollinator Team