

United States Senate

WASHINGTON, DC 20510

November 21, 2014

The Honorable Gina McCarthy
Administrator
Environmental Protection Agency
Mail Code: 1101A
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Dear Administrator McCarthy:

We write to request information on the steps the Environmental Protection Agency (EPA) is taking to address the risks posed by pesticides to pollinator health, as well as EPA's planned actions in response to the President's June 2014 memorandum outlining a federal strategy to protect the health of honey bees and other pollinators. Since beekeepers began reporting massive die-offs of bees in 2006, the health of our nation's honey bees and other insect pollinators has been a continuing source of concern. The President's actions highlight the importance of pollinators to our economy, as well as the many factors that are affecting their health, and we urge you to take steps that are commensurate with the importance of this issue to food production, the economy, and the environment.

EPA has an important role in protecting our nation's pollinators through its administration of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Under FIFRA, the EPA is required to review applications for pesticide registrations and to only approve the use of a pesticide if "it will perform its intended function without unreasonable adverse effects on the environment" and "when used in accordance with widespread and commonly recognized practice it will not generally cause unreasonable adverse effects on the environment."¹ The phrase "unreasonable adverse effects on the environment" means "any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide."² Additionally, EPA is required to reassess the use of pesticides every 15 years through the registration review process.³ The EPA Administrator can also cancel or change a registration through a special review process if she determines that the pesticide causes unreasonable adverse effects to the environment.⁴ The Administrator has the authority to immediately suspend a pesticide's registration when

¹ 7 U.S.C. § 136a(c)(5).

² 7 U.S.C. § 136(z)(bb).

³ 7 U.S.C. § 136a(g).

⁴ 7 U.S.C. § 136d(b).

“necessary to prevent an imminent hazard during the time required for cancellation or change in classification proceedings.”⁵

It is well established that bees and other pollinators fulfill an essential role in American food production and the economy. Approximately one in three bites of food benefits from honey bee pollination.⁶ The President’s memorandum stated that pollinators provide \$24 billion a year to the economy, \$15 billion of which is contributed by honey bees.⁷ Many crops almost entirely rely on animals for pollination, including almonds, cranberries, and apples.⁸ Almonds, for example, are completely dependent on honey bees for pollination, resulting in a \$2.8 billion contribution.⁹

Pesticides, including neonicotinoids, are one of many threats to honey bees and other pollinators.¹⁰ Direct exposure to lethal levels of neonicotinoids was dramatically demonstrated in June 2013, when 50,000 dead bumble bees were found after a product containing the neonicotinoid dinotefuran was sprayed on linden trees that were in bloom.¹¹ Lower exposure levels may lead to a variety of sub-lethal effects including impacts to navigation, cognitive abilities, reproduction, and disease resistance.¹² Not only do neonicotinoids pose a threat to pollinators, there are also studies considering the potential impact of neonicotinoids on humans that include evidence of neonicotinoid residues on food¹³ and neurological impacts on rats.¹⁴ Additional studies illustrate the potential effect of neonicotinoids on vertebrate wildlife, including birds.¹⁵

⁵ 7 U.S.C. § 136d(c).

⁶ *Honey Bees and Colony Collapse Disorder*, USDA, Agricultural Research Service, <http://www.ars.usda.gov/News/docs.htm?docid=15572#labs>.

⁷ Presidential Memorandum—Creating a Federal Strategy to Promote the Health of Honey Bees and Other Pollinators (June 20, 2014) [hereinafter Presidential Memorandum].

⁸ Renée Johnson & M. Lynne Corn, Congressional Research Service, *Bee Health: Background and Issues for Congress*, 5, 7 tbl.1 (Apr. 9, 2014).

⁹ *Id.* at tbl.1.

¹⁰ *Pollinator Health Concerns*, EPA, <http://www2.epa.gov/pollinator-protection/pollinator-health-concerns>.

¹¹ *The Wilsonville Bee Kill*, Xerces Society for Invertebrate Conservation, <http://www.xerces.org/the-wilsonville-bee-kill/>.

¹² J.P. van der Sluijs et al., *Conclusions of the Worldwide Integrated Assessment on the Risks of Neonicotinoids and Fipronil to Biodiversity and Ecosystem Functioning*, Environmental Science and Pollution Research (forthcoming), available at <http://www.tfsp.info/worldwide-integrated-assessment/>; Jennifer Hopwood et al., *Are Neonicotinoids Killing Bees?* 11 (2012).

¹³ Mei Chen et al., *Quantitative Analysis of Neonicotinoid Insecticide Residues in Foods: Implication for Dietary Exposures*, Journal of Agricultural and Food Chemistry (2014).

¹⁴ Junko Kimura-Kuroda et al., *Nicotine-Like Effects of the Neonicotinoid Insecticides Acetamiprid and Imidacloprid on Cerebellar Neurons from Neonatal Rats*, PLoS ONE, Feb. 2012, 1 (2012); Mohamed B. Abou-Donia, *Imidacloprid Induces Neurobehavioral Deficits and Increases Expression of Glial Fibrillary Acidic Protein in the Motor Cortex and Hippocampus in Offspring Rats Following in Utero Exposure*, 71 Journal of Toxicology and Environmental Health, Part A, 119 (2008).

¹⁵ See, e.g., David Gibbons et al., *A Review of the Direct and Indirect Effects of Neonicotinoids and Fipronil on Vertebrate Wildlife*, Environmental Science and Pollution Research (forthcoming), available at

Neonicotinoids enter the environment through multiple routes. They can be applied through seed treatments, foliar spraying, tree injections, and soil drenching¹⁶ and are taken up and distributed through the entire plant, including flowers, pollen, and nectar.¹⁷ They can then enter the surrounding environment through many routes, including dust from planting treated seeds, build-up in treated soil, runoff into surrounding water, and through contaminated pollen and nectar.¹⁸ They are also widely used, and neonicotinoids and the systemic pesticide fipronil accounted for one-third of the global market for insecticides in 2010.¹⁹

It is our understanding that EPA has taken some steps towards addressing the impact of neonicotinoids on pollinators. In August 2013, for example, EPA announced new pesticide labeling requirements for certain neonicotinoids that prohibit application while bees are foraging and provide information on ways that bees can be exposed to pesticides.²⁰ However, concerns have been raised that the new labeling requirements inadequately protect bees from the effects of neonicotinoids, contain vague directions and terms, and only apply to foliar applications and do not affect other application methods, such as seed treatments or tree injections.²¹ We are also aware that EPA is currently in the process of reviewing registrations for six neonicotinoid pesticides as part of its registration review process. It is our understanding that Assistant Administrator Jones recently announced that EPA is working towards making a regulatory decision on neonicotinoids in 2016 or 2017.²² Although this new timeline would be an improvement over the current registration review timeline, which has deadlines ranging from 2016 to 2019,²³ we encourage EPA to act more quickly in order to avoid harm to pollinators and the environment.

A number of recent scientific studies demonstrate the risks that these chemicals pose to pollinators and surrounding ecosystems and the potential inefficiency of some current uses of these pesticides. The Worldwide Integrated Assessment of the Impact of Systemic Pesticides on Biodiversity and Ecosystems reviewed 800 scientific studies on the impact of systemic pesticides and its recently released findings reflect the many potential ways that these pesticides can harm

<http://www.tfsp.info/worldwide-integrated-assessment/>; Pierre Mineau & Cynthia Palmer, American Bird Conservancy, *The Impact of the Nation's Most Widely Used Insecticides on Birds* (Mar. 2013).

¹⁶ van der Sluijs et al. *supra* note 12.

¹⁷ Johnson & Corn, *supra* note 8, at 10; van der Sluijs et al., *supra* note 12.

¹⁸ van der Sluijs et al., *supra* note 12.

¹⁹ *Id.*

²⁰ *New Pesticide Labels Will Better Protect Bees and Other Pollinators*, EPA (Aug. 15, 2013),

<http://yosemite.epa.gov/opa/admpress.nsf/bd4379a92ceceac8525735900400c27/c186766df22b37d485257bc8005b0e64!opendocument>; Letter from Steven Bradbury, Director, EPA Office of Pesticide Programs to Registrants of Nitroguanidine Neonicotinoid Products (August 15, 2013).

²¹ *The Pollinator Stewardship Council Analysis of the "New Label,"* Pollinator Stewardship Council, *available at* <http://pollinatorstewardship.org/wp-content/uploads/2014/02/PSC-label-layout-of-concerns.pdf>.

²² Tiffany Stecker, *White House Pushes Back Official Release of Pollinator Report*, Greenwire, Oct. 22, 2014, <http://www.eenews.net/greenwire/2014/10/22/stories/1060007741>.

²³ *Id.*; *Schedule for Review of Neonicotinoid Pesticides*, EPA, <http://www2.epa.gov/pollinator-protection/schedule-review-neonicotinoid-pesticides>.

pollinators and other parts of the surrounding environment.²⁴ For example, it found that these pesticides are present in the environment “at levels that are known to cause lethal and sublethal effects on a wide range of terrestrial (including soil) and aquatic microorganisms, invertebrates and vertebrates.”²⁵ Additionally, a recent study by the U.S. Geological Survey (USGS) found neonicotinoids in streams throughout the Midwest.²⁶ Furthermore, in October 2014, EPA released a report finding that neonicotinoid seed treatments provide minimal, if any, benefits to soybean crop yields.²⁷ There have also been other indications that some current uses of these chemicals, particularly in the form of seed treatments, do not provide consistent pest management benefits to farmers when compared to other pest management alternatives.²⁸

In May 2013, the European Commission banned certain uses of products containing the neonicotinoids clothianidin, thiamethoxam, and imidacloprid for a two year period.²⁹ This was based on findings that these products posed an unacceptable risk to bees under European Union law.³⁰ Additionally, in August 2013, the European Commission placed a similar ban on the systemic pesticide fipronil.³¹ The restrictions imposed by these actions included prohibiting the use of seeds treated with this pesticides for plants that attract bees, with some exceptions.³² Despite acknowledgement that EPA’s conclusions on the effects of clothianidin, imidacloprid, and thiamethoxam are similar to at least some of those that prompted the European Commission decision on these pesticides, EPA is not imposing similar restrictions, noting that the report underlying the European Commission decisions did not address factors that EPA must consider under U.S. law.³³ Instead, EPA appears to be waiting until the registration review process is complete.³⁴

²⁴ *Worldwide Integrated Assessment*, The Task Force on Systemic Pesticides, <http://www.tfsp.info/worldwide-integrated-assessment/>.

²⁵ van der Sluijs et al., *supra* note 12.

²⁶ Michelle L. Hladik et al., *Widespread Occurrence of Neonicotinoid Insecticides in Streams in a High Corn and Soybean Producing Region, USA*, 193 *Environmental Pollution* 189 (2014); *Insecticides Similar to Nicotine Widespread in Midwest*, U.S. Geological Survey (July 24, 2014), <http://www.usgs.gov/newsroom/article.asp?ID=3941#.U9K-BPldVSI>.

²⁷ *EPA Finds Neonicotinoid Seed Treatments of Little or No Benefit to U.S. Soybean Production*, EPA (Oct. 16, 2014), <http://yosemite.epa.gov/opa/admpress.nsf/bd4379a92ceceac8525735900400c27/aa78c4812c2c7a5785257d7300721da0!OpenDocument>.

²⁸ See Center for Food Safety, *Heavy Costs: Weighing the Value of Neonicotinoid Insecticides in Agriculture* (Mar. 2014).

²⁹ Commission Implementing Regulation 485/2013, 2013 O.J. (L 139) 12 (EU).

³⁰ See *id.* at 12, 13.

³¹ Commission Implementing Regulation 781/2013, 2013 O.J. (L 219) 22 (EU).

³² See Commission Implementing Regulation 485/2013 *supra* note 29; Commission Implementing Regulation 781/2013, *supra* note 31.

³³ *Colony Collapse Disorder: European Bans on Neonicotinoid Pesticides*, EPA, <http://www.epa.gov/pesticides/about/intheworks/ccd-european-ban.html>.

³⁴ *Id.*

In July 2014, the U.S. Fish and Wildlife Service (FWS) decided to phase out the use of neonicotinoids across the National Wildlife Refuge System by January 2016.³⁵ In this decision, FWS stated: “We have determined that prophylactic use, such as a seed treatment, of the neonicotinoid pesticides that can distribute systematically in a plant and can potentially affect a broad spectrum of non-target species is not consistent with Service policy. We make this decision based on a precautionary approach to our wildlife management practices and not on agricultural practices.”³⁶ In making this determination, FWS became the first U.S. agency to restrict use of neonicotinoids.

The President’s memorandum in June highlighted the importance of this issue, as well as EPA’s key role in finding solutions. First, the President established a Pollinator Health Task Force, which is to be co-chaired by the Administrator of the EPA. The Task Force is instructed to consider, among other things, the role pesticide exposure plays in bee population declines, as well as new ways in which pollinator exposure to pesticides can be reduced. Additionally, the President instructed that EPA must “assess the effect of pesticides, including neonicotinoids, on bee and other pollinator health and take action, as appropriate, to protect pollinators.”³⁷

We respectfully request that EPA respond to the following questions and provide supporting documentation by December 15, 2014:

1. How does EPA plan to fulfill its directive from President Obama to assess the effect of pesticides, including neonicotinoids, on bees and other pollinators? How will EPA consider the cumulative effect of exposure from different routes, such as seed treatments and foliar spraying? How will EPA consider both lethal and sub-lethal effects of pesticides on pollinators? It is our understanding that the National Pollinator Health Strategy will not be completed by the December 2014 deadline set by the memorandum. Has a new timeline been set for completing this report? Does this affect the timeline for completing EPA’s required assessment of the effect of pesticides on pollinator health? If so, please explain.
2. The President’s memorandum also directs EPA to use the results of the assessment to take action to protect pollinators. What standard will EPA use to determine whether action is necessary, and on what timeframe will EPA act? Are there other actions EPA could take to protect pollinators, in addition to registration review for neonicotinoids? How will EPA use the results of the assessment to revisit past

³⁵ *U.S. Fish and Wildlife Service Bans GMOs and Neonicotinoid Insecticides*, National Wildlife Refuge Association (Aug. 8, 2014), <http://refugeassociation.org/2014/08/u-s-fish-and-wildlife-service-bans-gmos-and-neonicotinoid-insecticides/>.

³⁶ Memorandum from Chief, National Wildlife Refuge System to Regional Refuge Chiefs, Region 1-8 (July 17, 2014), *available at* http://www.centerforfoodsafety.org/files/agricultural-practices-in-wildlife-management_20849.pdf.

³⁷ Presidential Memorandum, *supra* note 7.

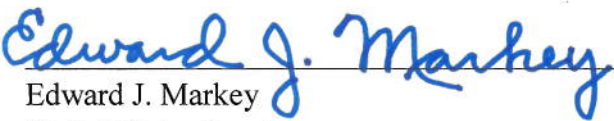
decisions relating to neonicotinoids, including its 2012 decision not to suspend clothianidin registrations under its imminent hazard authority?

3. As described above, there are increasing indications that systemic pesticides not only pose risks for pollinators but can have broader impacts on the surrounding environment. This includes the presence of neonicotinoids in food consumed by humans. How is EPA evaluating the extent to which neonicotinoids are transferred in the environment surrounding application and planting sites, including surrounding groundwater? Will EPA incorporate the data and findings from USGS and FWS into its evaluation of neonicotinoids, particularly seed treatments, and their transfer into the environment and effect on biodiversity and water quality? Is EPA working with FDA to evaluate the occurrence of neonicotinoid residues in food and the impact that these pesticides may have on human health? If not, why not?
4. How does EPA plan to incorporate information from independent scientific studies in its registration review for neonicotinoids? How will EPA consider the effects on components of the ecosystem other than pollinators, such as other invertebrates, vertebrates, and water quality?
5. FIFRA's standard for pesticide registration prohibits pesticide uses that would have an "unreasonable adverse effects on the environment." The definition of "unreasonable adverse effects," as described above, requires an evaluation of the costs and benefits of using the pesticide. How will EPA take into account the impacts of systemic pesticides on pollinator health as well as other parts of the ecosystem in this analysis? How will EPA factor both lethal and sub-lethal effects in its consideration of the costs of using these pesticides? As discussed above, there are indications, including a recent EPA study on neonicotinoid seed treatments and soybean yields, that the some current uses of systemic pesticides, particularly prophylactic uses such as seed treatments, may not be providing the purported agricultural benefits to farmers. How will EPA take this evidence into account?
6. Section 7 of the Endangered Species Act (ESA) requires that federal agencies consult with the Fish and Wildlife Service to ensure that their actions are not likely to jeopardize the continued existence of any listed species. A number of insects and other invertebrates are protected under the ESA. Has EPA completed a consultation for any active neonicotinoid ingredient? If not, why? What actions is EPA taking to fulfill its responsibilities under the ESA in regards to negative impacts neonicotinoids can have on threatened and endangered species?
7. In a 2012 letter to Senator Markey, Assistant Administrator Jones stated: "If, at any time during our review, the science indicates that, in fact, neonicotinoid pesticides used according to label instructions are not meeting the protection standards of FIFRA, the EPA will take necessary regulatory action." Recently, Assistant Administrator Jones announced that EPA may make its regulatory decision on neonicotinoids by 2016 or 2017. Given the large number of independent scientific

studies already published on systemic pesticides and their impact on pollinator health, is EPA evaluating the information already available to determine whether regulatory action is needed before 2016 or 2017?

Thank you for your cooperation in responding to these requests. Please contact Angela Noakes or Dr. Avenel Joseph on Senator Markey's staff at 202-224-2742 with any questions.

Sincerely,



Edward J. Markey
United States Senator



Barbara Boxer
United States Senator



Sheldon Whitehouse
United States Senator



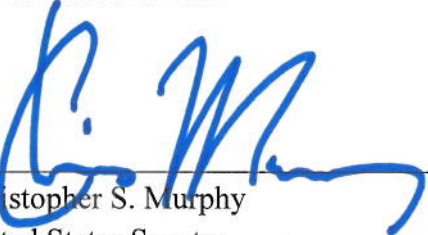
Elizabeth Warren
United States Senator



Brian Schatz
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Benjamin L. Cardin
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Christopher S. Murphy
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Richard Blumenthal
United States Senator



Bernard Sanders
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Mazie K. Hirono
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