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**Re: Input to the White House Task Force on Pollinator Health regarding the use of neonicotinoids**

Dear Directors Keigwin and Kunickis,

We the 128 undersigned organizations have closely followed the U.S. Environmental Protection Agency (EPA) and the broader White House Task Force's efforts to protect pollinators from pesticides including neonicotinoid insecticides. This letter outlines our concerns regarding the risks of neonicotinoids and the actions we recommend you take to mitigate these risks.

**I. Native and Managed Bees, and other Beneficial Species Provide Important Services to the Agricultural Sector and the Environment**

Honey bees and native bees jointly provide U.S. agriculture an estimated \$18 to \$27 billion in pollination service annually. Native bees play an often overlooked role in our agricultural systems. Researchers determined that native pollinators contribute more than \$3 billion to the U.S. agricultural economy.<sup>1</sup> More recently, in California, researchers estimated wild pollinators

Other beneficial species are also often unnoticed, yet they are essential to healthy agricultural fields, landscapes, gardens and natural systems. Predatory and parasitic insects and other arthropods provide natural pest suppression to farms, as well as to natural areas and developed landscapes, an ecosystem service valued at more than \$4.5 billion per year.<sup>3</sup> Birds provide insect and rodent control, plant pollination, and seed dispersal. For example, birds can destroy up to 98 percent of over-wintering codling moth larvae, a scourge of apple-growers worldwide. In eastern forests, birds eat up to 90 percent of budworms and 40 percent of non-outbreak insect species. These services have been valued at \$5,000 per square mile of forest every year—which amounts to billions of dollars in environmental services.<sup>4</sup>

Losey and Vaughan calculated the value of ecosystem services to humans from all wild insects in the United States to reach \$60 billion.<sup>5</sup> EPA’s past assessment of neonicotinoid costs have not fully considered the known or potential impacts on these free services.

As the agency charged with regulating pesticides, it is EPA’s responsibility to protect pollinators and other beneficial wildlife from the pesticide products it approves for use. Neonicotinoids do not satisfy the terms set out in Section 3(c) of the Federal Insecticide Fungicide and Rodenticide Act (FIFRA), in that their registration poses “unreasonable adverse effects on the environment.”

## **II. Current Research Exemplifies the Significant Risk Neonicotinoids Pose**

Neonicotinoids were recently evaluated by a large panel of experts chartered under the International Union for the Conservation of Nature (IUCN), known as the Task Force on Systemic Pesticides. This panel assessed effects of systemic insecticides on an ecosystem level, reviewing approximately 800 peer-reviewed articles on neonicotinoids, and another systemic insecticide fipronil.

Their report, entitled the “Worldwide Integrated Assessment on Systemic Pesticides,” is being published serially in *Environmental Science and Pollution Research*. Key findings include:<sup>6</sup>

- Neonicotinoids 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.”
- The active ingredients persist, particularly in soils, with half-lives of months and, in some cases, years.
- The metabolites of neonicotinoids can be as or more toxic than the active ingredients.

- Standard methods used to assess the toxicity of a pesticide (e.g. short-term lab toxicity results) fail to identify the subtle, yet severe impacts of neonicotinoids.
- The most affected group of species include insect pollinators. Furthermore, harm to pollinators has been demonstrated at field relevant levels.

The impact of neonicotinoids also extends to aquatic ecosystems. A new scientific article provides an overview of the widespread neonicotinoid contamination worldwide and the associated impacts on aquatic life from observed levels of neonicotinoids. Researchers concluded that:

*“Existing information presented here suggests that stricter regulations and use of neonicotinoid insecticides are warranted to protect aquatic ecosystems and the broader biodiversity they support.”<sup>7</sup>*

The loss of invertebrates translates to economic loss. The free ecological services provided by invertebrates are highlighted by the IUCN Task Force’s article *Global collapse of the entomofauna*:

*Overall, a compelling body of evidence has accumulated that clearly demonstrates that the wide-scale use of these persistent, water-soluble chemicals is having widespread, chronic impacts upon global biodiversity and is likely to be having major negative effects on ecosystem services such as pollination that are vital to food security and sustainable development. There is an urgent need to reduce the use of these chemicals and to switch to sustainable methods of food production and pest control that do not further reduce global biodiversity and that do not undermine the ecosystem services upon which we all depend.<sup>8</sup>*

Recognizing that the weight of scientific evidence indicates that neonicotinoids pose significant risk to pollinators and other invertebrates as well as the broader ecosystems that depend upon them, we respectfully request that you consider the following recommendations.

### **III. Recommendations To Protect Pollinators From Neonicotinoids**

#### **A. Expedite the Neonicotinoid Risk Assessment Processes**

EPA's registration review schedule for the neonicotinoids continues through 2018.<sup>9</sup> While we recognize the importance of a thorough evaluation of risk, in the case of neonicotinoids, EPA does not have the luxury of taking its time. The concerns outlined above demonstrate the need for immediate intervention to mitigate risks and for increased oversight for the long term.

### **B. Strengthen and Expand Risk Assessment Requirements**

While the new guidance document on pollinator risk assessment recommends some improvements, the current risk assessment process at EPA still fails to consider numerous risk factors. The failings of the current risk assessment system have led to the underestimation of risk of neonicotinoids and ultimately product labels that do not protect pollinators from unreasonable adverse effects.

An abbreviated list of recommendations of how to expand and strengthen EPA's pesticide risk assessment process includes: evaluating all routes of exposure; accounting for the significant risk differences between honey bees and native bees; more thoroughly evaluating the hazards (e.g. oral LD50 and chronic NOEL for adult and larval bees); increasing the knowledge about and assessment of persistence and buildup of neonicotinoids; and adding an extensive review of both minor and major degradates.

Within the risk assessment process, EPA also must begin evaluating chemical mixtures. The differing risks between active ingredients alone and formulated products is well known and must be accounted for.<sup>10</sup> Additionally, there is insufficient data on the synergistic effects between chemicals that might be found jointly in tank mixes, in the field or in a beehive.<sup>11</sup> For example, the combination of clothianidin and trifloxystrobin resulted in a 150-fold increase in kill rate to leaf beetle larvae over clothianidin alone.<sup>12</sup> Similarly, neonicotinoids are known to be additively or synergistically toxic when they occur together.<sup>13</sup> EPA should take advantage of the federal Tox21 and ToxCast programs to rapidly screen individual chemicals and mixtures of co-formulated and co-applied chemicals for synergistic effects and regulate tank mixes accordingly to prevent application of bee-toxic mixtures. Finally, EPA should institute a cumulative risk assessment process for all nicotinic acetylcholine receptor agonists for their effects on both native and managed bees, and limit applications of these chemicals to minimize the risk to bees.

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<sup>9</sup> June 19, 2013, CEO/Executive Director-level letter to President Obama, with the subject line: "Urgent Appeal – neonicotinoid insecticides," available online at: [http://www.centerforfoodsafety.org/files/final-neonic-letter-62013\\_43430.pdf](http://www.centerforfoodsafety.org/files/final-neonic-letter-62013_43430.pdf). That letter stated: "Unfortunately, EPA's planned deadline of completing its Registration

This more thorough risk assessment process should extend not just to new registrations but also be included in registration review.

**C. Close Conditional Registration Loophole Allowing Pesticides to Enter the Market Prematurely**

Conditional registration allows a new active ingredient to enter the market for an unspecified period of time while the registrant gathers safety data requested by EPA. EPA's and the Government Accountability Office's analyses of the program confirms that this process has been misused in the majority of cases.<sup>14</sup> Approximately 65% of the 16,000 currently registered pesticide products—including neonicotinoids—have been put on the market through conditional registration before basic toxicity testing is completed.<sup>15</sup>

**D. Fully Calculate the Externalized Costs Associated with Pesticide Use**

The economic loss caused by harm to honey bees and other beneficial species that provide pollination and pest control service to agriculture must be calculated and included when determining the costs and benefits of registering or continuing registration of pesticide products.

**E. Regulate the Planting of Neonicotinoid-coated Seed as a Pesticide Use**

EPA has allowed millions of pounds of pesticide treated seeds to be planted annually on likely 200 million acres nationwide. Almost all of U.S. corn seeds and more than half of soybean seeds are coated with neonicotinoids.<sup>16</sup> Many other seeds, including canola, are also coated.<sup>17</sup> Yet, the use of treated seeds is not considered a pesticide use by EPA.

The lack of a pesticide designation provides little to no enforcement mechanism against the potential misuse of or harm from these seeds. EPA must bring these seeds under regulation, and mandate fully enforceable label warnings and use directions.

**F. Suspend the Use of Neonicotinoids as Soybean Seed Coating Products**

EPA's recent memorandum, *Benefits of Neonicotinoid Seed Treatments to Soybean Production*, highlights the lack of benefit associated with, and at times detrimental effects of coated soybean. Case in point, recent soybean yield research found that the use of coated soybean seeds reduced crop yields in a typical Mid-Atlantic soybean agriculture setting by 5 percent compared to the

uncoated control seeds.<sup>18</sup> EPA should act via Stop Sale, Use, or Removal Order to prohibit these products nationally, or at a minimum from the Mid-Atlantic Region market.

Furthermore, it would be irresponsible to delay needed regulatory action until completion of the planned Registration Review (now targeted vaguely between 2016-19). Instead, EPA should immediately impose registration suspensions or very strong label restrictions.

#### **G. Complete Analyses on the Efficacy of the Use of Neonicotinoid-coated Seeds in Crops other than Soybeans**

Similar analyses should be conducted for other crops that commonly use neonicotinoid-coated seeds. In particular, use of seed coating on corn should be analyzed as almost all of it is coated with clothianidin or thiamethoxam and it is planted on nearly 100 million acres, four times the area planted with coated soybean seeds. Corn seed is by far the largest single use of these damaging insecticides. It would be strongly in the public interest for EPA to engage in a comparable public comment process for that crop as it is engaged in for soybeans.

#### **H. Upgrade EPA's Incident Reporting System for Dead Bees, Birds, and Other Wildlife**

EPA needs to make incident reporting a priority, not just for bees but for birds, bats, and other wildlife as well. The agency needs to coordinate its own internal databases, sync its information with the newly developed Fish and Wildlife Service Injury and Mortality Reporting system, and fix the FIFRA 6(a)(2) incident reporting requirements. Furthermore, it needs to make these data-systems electronic. The current data-gathering deficit means that Registration Review decisions are rarely informed by incident data from the field.

Upgrading the EPA incident reporting system would be a relatively simple and low cost measure, with enormous benefits in our understanding of pesticide impacts on bees, birds, bats and other wildlife.

#### **I. Require a National Pesticide Use Reporting System**

A national pesticide use reporting system would provide realistic and comprehensive data on how and where pesticides are used across the United States. Said information would, among other things, significantly improve investigations into bee kills. Coated seeds must be included in the reporting system, as well as co-formulants used in pesticide products. The state of California Pesticide Use Reporting system is a working model for such a system, and

The recent changes to some neonicotinoid product labels are inadequate. Labels must be changed to fully protect pollinators and the broader environment from the toxic effects of systemic pesticides.

The Pollinator Stewardship Council recently submitted detailed analysis of the pollinator protection box now required on some foliar neonicotinoid product labels (see following page). Among other things, the Council's critique notes how not one of the five conditions in the new pollinator protection box takes into account the insecticide's systemic mode of action.

Similarly, the National Honey Bee Advisory Board has provided input on methods to mitigate some of the risks associated with the planting of neonicotinoid coated seed. For example, label requirements could stipulate coated seeds only be planted in accordance with Integrated Pest Management principles such as requiring scouting and field history information.

If the EPA is to successfully respond to the mounting concerns that neonicotinoids pose to native and managed bees as well as the broader environment, these recommendations must be heeded.

#### **K. Implement Concrete Measures to Ensure Conservation Lands are Not Contaminated with Pesticides**

The White House Task Force must take action to ensure that the lands and waters in pollinator habitat acquisition and conservation plans are not so contaminated with the neonicotinoids (or other pesticides) that the habitat becomes a sink rather than a source area for the species involved.

#### **L. Comply with the Endangered Species Act**

EPA acknowledges its failure to consult on the neonicotinoids with the U.S. Fish and Wildlife Service (FWS) or the National Marine Fisheries Service (NMFS), as required under Section 7(a)(2) of the Endangered Species Act (ESA). EPA admitted this in its 2014 "Response to Public comments" on its approval of a new, systemic, non-neonicotinoid insecticide, "cyantraniloprole."<sup>19</sup>

Despite this admission, EPA still has not initiated consultation on the potential effects of neonicotinoids on Federally-listed threatened and endangered species, including at least 41 listed pollinators.<sup>20</sup> It is unknown how many of the 880 ESA-listed plants require pollinators, but the

number is no doubt substantial.<sup>21</sup> The harm to species that pollinate these imperiled plants must be accounted for under the ESA.

### **M. This National Crisis Requires a Federal Response**

While many states have initiated programs to address the crisis of pollinator declines, these local and statewide responses cannot take the place of a much needed federal regulatory structure. For example, many states have programs in place that facilitate communication between beekeepers and pesticide applicators. These programs have some ability to avoid acute bee-kill incidents. Yet, these programs fail to address the breadth of the problem. Most notably they do not respond to the systemic nature and long-term persistence of most neonicotinoids. Furthermore, they put a tremendous burden on beekeepers as in some cases, the pesticide applicator becomes free of any liability for damage done to either native or managed bees. Also with state specific solutions, beekeepers must be aware of and adapt to each individual state law as they move their bees through multiple states each year. Lastly, the state specific plans which emphasize increased communication between beekeepers and pesticide applicators does nothing to protect native bees that cannot be moved. One third of North America's native bumble bees are at risk of extinction.<sup>22</sup>

Pesticide regulation is initiated at the federal level with states able to go beyond the federal baseline. However, states cannot institute regulation weaker than the Federal Insecticide Rodenticide and Fungicide Act. State pollinator plans must be in addition to a federal regulatory structure which provides consistency, oversight and clarity on methods to address the wide range of risks that neonicotinoids pose.

Also highlighting the need for a federal response to pollinator declines is the fact that current federal labels fail to avoid unreasonable harm to pollinators. That failing is outlined above in the section titled *Strengthen and Clarify Pesticide Labels*.

### **N. Best Management Practices are an Insufficient Response to the Magnitude of this Problem**

While Best Management Practices (BMPs) are a valuable risk mitigation tool, alone they fail to respond to the grave concerns caused by neonicotinoids and other pesticides. BMP's are entirely voluntary, and significant bee kills could still occur even when the label is being followed. For example, last year the Almond Board of California came out with a set of BMP's.<sup>23</sup> The document notes that some insecticides are known to synergize with some fungicides and that

practices. Furthermore, the BMPs' quick guide for pesticide applicators does not even mention avoiding tank mixes, let alone their risk.

The only appropriate response to this and the many other concerns posed by pesticides is to improve, strengthen, and clarify the federal enforcement mechanisms of pesticide law.

#### **IV. Conclusions**

The preponderance of evidence shows that current registrations of persistent, systemic pesticides are causing unreasonable adverse effects on the environment and the economy. The Presidential Memorandum prompts EPA to take a comprehensive look at pesticides including neonicotinoids in order to identify the appropriate actions to protect pollinators. As the agency charged with registering pesticides, EPA has an opportunity to help protect our nation's pollinators and the biological diversity that they support.

If you have any questions, please do not hesitate to contact Lori Ann Burd, Environmental Health Director at the Center for Biological Diversity at 971-717-6405 or [laburd@biologicaldiversity.org](mailto:laburd@biologicaldiversity.org).

Thank you for your thoughtful response to this matter.

Sincerely,

Abanitu Organics  
AFGE Local 3354  
Alabama State Association of Cooperatives  
American Bird Conservancy  
Anne Arundel County Beekeepers  
Appetite for Change  
As You Sow  
Atrisco Land Grant  
Avaaz  
Beyond Pesticides  
Beyond Toxics  
California Rural Legal Assistance Foundation  
California State Grange

Center for Reflection, Education and Action  
Central Iowa Beekeepers Assn  
Central Maryland Beekeepers Association  
Colorado State Beekeepers Association  
Community Alliance with Family Farmers  
Community Food & Justice Coalition  
Consumers Union  
Dignity Health  
Doan Family Farms  
Ecohermanas  
Ecological Farming Association  
Ecology Center  
Ecumenical Eco-justice Network  
Environment America  
Environment Arizona  
Environment California  
Environment Colorado  
Environment Connecticut  
Environment Florida  
Environment Georgia  
Environment Illinois  
Environment Iowa  
Environment Maine  
Environment Maryland  
Environment Massachusetts  
Environment Michigan  
Environment Minnesota  
Environment Missouri  
Environment Montana  
Environment Nevada  
Environment New Hampshire  
Environment New Jersey  
Environment New Mexico  
Environment New York

Environment Washington  
Factory Farming Awareness Coalition  
Farmworker Association of Florida  
Florida Organic Growers  
Food & Water Watch  
Food Democracy Now!  
Friends of the Earth - US  
Georgia Organics  
Global Bees  
Green America  
Green Century Capital Management  
Greenpeace  
Indigenous Environmental Network  
Institute for Agriculture and Trade Policy  
Kansas Rural Center  
La Mujer Obrera  
Land Stewardship Project  
Maine Organic Farmers and Gardeners Association  
Maryknoll Office for Global Concerns  
Maryland Ornithological Society  
Maryland Pesticide Network  
Miller/Howard Investments, Inc.  
Missionary Oblates  
MOMS Advocating Sustainability (MOMAS)  
National Family Farm Coalition  
National Hmong American Farmers  
National Latino Farmers and Ranchers Coalition  
National Organic Coalition  
National Organic Dairy Producers Alliance  
Nebraska Sustainable Agriculture Society  
North Carolina Association of Black Farmers Land Loss Prevention Project  
Northeast Sustainable Agriculture Working Group  
Northern Plains Sustainable Ag Society  
Northwest Center for Alternatives to Pesticides

Operation Spring Plant  
Orange County Food Access Coalition  
Organic Consumers Association  
Penn Environment  
People and Pollinators Action Network  
Pesticide Action Network North America  
Pollinate Minnesota  
Pollinator Friendly Alliance of Stillwater  
Portfolio Advisory Board of the Adrian Dominican Sisters  
Roots of Change  
Rural Advancement Fund International - USA  
Rural Coalition  
Rural Development Leadership Network  
Sierra Club  
Sisters of Charity Health System  
Sisters of St. Francis of Philadelphia  
Slow Food USA  
SumofUs  
The Endocrine Disruption Exchange  
The Farmers Guild  
The Indian Nations Conservation Alliance  
Toxic Free NC  
Trillium Asset Management, LLC  
United Methodist Caretakers of God's Creation  
Washington State Beekeepers Association  
Why Hunger  
Wild Farm Alliance  
Wisconsin Environment  
Women, Food and Agriculture Network  
World Farmers

c.c.

White House Pollinator Task Force c/o Michael Stebbins, Assistant Director, Biotechnology,

