



September 24, 2014

The Honorable Gina McCarthy, Administrator
 U.S. Environmental Protection Agency
 Ariel Rios Building, MC 1101A
 1200 Pennsylvania Avenue NW
 Washington, DC 20004

FEDERAL EXPRESS

Re: Comment on EPA assessment of neonicotinoid insecticides

Dear Administrator McCarthy,

On June 20, 2014, President Obama issued the White House Memorandum “Creating a Federal Strategy to Promote the Health of Honey Bees and Other Pollinators.” We strongly applaud the President for this critical initiative that recognizes the urgency of taking action on pollinator declines.

Sec. 3.1 of his Memorandum states (in pertinent part):

.... the “Environmental Protection Agency shall assess the effects of pesticides, including neonicotinoids, on bee and other pollinator health and take action, as appropriate, to protect pollinators.” [within 180 days].

The undersigned leaders of 17 major non-profit environmental and consumer groups respectfully request that you consider our comments during EPA’s assessment of the neonicotinoid insecticides.¹ Neonicotinoids have rapidly become one of the most widely used classes of agricultural chemicals. It is apparent that the White House is concerned that EPA’s current

¹ The active ingredients are: acetamiprid, clothianidin, dinotefuran, imidacloprid, thiacloprid and thiamethoxam.

Registration Review schedule under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) is not timely. The agency's schedule calls for most of the neonicotinoids to be reviewed not until 2018-2019.²

To be clear, as the Memorandum recognizes, this issue is not just about domesticated honey bees, as crucial as they are to the food supply. It is about all native pollinators, taking in literally thousands of U.S species, ranging from bumblebees, wasps, moths, butterflies, flies and beetles, to hummingbirds, perching birds, bats and several other mammals, such as possums. We urge EPA to sweep even more broadly in its assessment and consider the effects of neonicotinoids on beneficial species of all varieties, as well as considering basic ecosystem sustainability, upon which all species ultimately depend, including humans.

A. - EPA's Assessment Should Evaluate the Effects and Exposure Routes that the Agency has Not Fully Considered in Past Risk Assessments

It appears that the President seeks not only a forward-looking assessment of future risks of the neonicotinoids, but also an accounting of their past "effects". Unfortunately, the situation is grim. The effects of the neonicotinoids – which have increased in global use by orders of magnitude in the last 15 years - were recently reviewed by a large expert group chartered under the International Union for the Conservation of Nature, known as the Task Force on Systemic Pesticides (IUCN Task Force). It has assessed effects of systemic pesticides on biodiversity and ecosystems, with a focus on pollinators and other non-target species.

The IUCN Task Force reviewed approximately 800 peer-reviewed articles on the neonicotinoids, plus fipronil. Their report, entitled the "Worldwide Integrated Assessment on Systemic Pesticides," is being published serially in *Environmental Science and Pollution Research*. Key findings include:³

- 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, and they accumulate. This increases their toxicity by increasing the duration of exposure of non-target species.
- The metabolites of neonicotinoids are often as or more toxic than the active ingredients.
- Typical measurements used to assess the toxicity of a pesticide (short-term lab toxicity results) are not useful for systemic pesticides and conceal the true impacts. They measure direct acute effects rather than chronic effects via multiple routes of exposure. The weight

² Many of our groups also signed onto a 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. Then we said: "Unfortunately, EPA's planned deadline of completing its Registration Reviews for the major neonicotinoids by 2018 is far too slow in view of their potentially calamitous risks". We note 15 months later that the risks appear far more dire than we expressed in 2013. We noted then that the European Union had taken a favorable precautionary action by suspending the use of key neonicotinoids on bee-attractant crops for a minimum of two years, a measure that appears even more justified by the intervening science and facts.

³ Van der Sluijs JP, 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.

of the published evidence is very strong that the acute and chronic effects pose a serious risk of harm to colonies/populations of honey bees, bumblebees and other pollinators.⁴

- The most affected group of species include soil invertebrates and insect pollinators, with high exposure through air and plants and medium exposure through water. Invertebrates exposed to contaminated pollen, nectar and fluids are harmed at “field-realistic” concentrations.

The Task Force concluded that current use of the neonicotinoids is not sustainable. Their continued pervasive use will accelerate the global decline of important invertebrates. The diversity and stability of ecosystems worldwide are at risk.

It is particularly noteworthy that the Task Force considered all routes of exposure, whereas EPA’s risk assessment documents for the same insecticides have consistently failed to give full consideration to these routes of exposure: contaminated planting dust; residually contaminated soils; marginal plants that have taken up the neonicotinoid contamination;⁵ contaminated guttation fluid; and contaminated surface and groundwater.

Neonicotinoids that are not taken up by the plants during applications can leach or run off directly into soil and water, where residues and metabolites can persist, remaining active for months to years. In one recent U.S. study addressing potato cultivation, they were found to constantly recirculate via pumped groundwater used for irrigating fields – an application and pollution route that EPA did not consider at all when approving the products.⁶ Other analyses show pollution of ground and surface waters near treated fields has impacted natural areas that are at considerable distances from application sites, at concentrations high enough to reduce insect populations.⁷

A March 2013 report by the noted Canadian avian toxicologist, Pierre Mineau, together with the American Bird Conservancy (ABC), found groundwater contamination levels that were “totally unprecedented in the history of pesticide registration.”⁸ Mineau’s and ABC’s prophetic warnings about the potential for bird declines resulting from this ongoing continent-wide contamination went unheeded by EPA officials.

After the Mineau/ABC report was issued, the multi-year Hallman et al. 2014 study, “Declines in Insectivorous Birds are Associated with High Neonicotinoid Concentrations,” published in prestigious *Nature*, found that commonly-detected levels of imidacloprid in Holland’s surface water is correlated with 3.5% annual decline in bird populations.⁹ They assessed other likely

⁴ See also this key new study that post-dated the IUCN Task Force report, Sandrock C, et al. 2014. Impact of chronic neonicotinoid exposure on honeybee colony performance and queen supersedure. *PLoS ONE* 9(8): e103592. doi:10.1371/journal.pone.0103592.

⁵ Krupke CH, et al. 2012. Multiple routes of pesticide exposure for honey bees living near agricultural fields. *PLoS ONE*, 7(1): e29268.

⁶ Huseeth AS, et al. 2014. Variable concentration of soil-applied insecticides in potato over time: implications for management of *Leptinotarsa decemlineata*. *Pest. Manag. Sci.*. doi: 10.1002/ps.3740.

⁷ Mineau P, and C Palmer. 2013. *The Impact of the Nation’s Most Widely Used Insecticides on Birds*. Report by American Bird Conservancy. At: www.abcbirds.org/abcprograms/policy/toxins/Neonic_FINAL.pdf; Main AR, et al. 2014. Widespread use and frequent detection of neonicotinoid insecticides in wetlands of Canada's Prairie Pothole Region. *PLoS One* 9 (3), e92821.

⁸ Mineau and Palmer. 2013, *supra*.

⁹ Hallmann CA, et al. 2014. Declines in insectivorous birds are associated with high neonicotinoid concentrations. *Nature* doi:10.1038/nature13531.

contributing factors and found imidacloprid contamination was the key to the declines. Tree sparrows and swallows were among the most-impacted species. Plainly bird populations cannot withstand years of such declines – the ongoing crisis in North American and European insectivorous bird populations appears related.

Hallman et al. followed on the 2013 Dutch paper, “Macro-Invertebrate Decline in Surface Water Polluted with Imidacloprid”.¹⁰ This comprehensive study concludes (emphasis added):

*While a large amount of evidence exists from laboratory single species and mesocosm experiments, our study is the first large scale research based on multiple years of actual field monitoring data that shows that **neonicotinoid insecticide pollution occurring in surface water has a strong negative effect on aquatic invertebrate life, with potentially far-reaching consequences for the food chain and ecosystem functions.***

New research by the U.S. Geological Survey (USGS), issued on July 24 of this year, documents similar risks from neonicotinoids in the rivers and streams of the Midwest.¹¹ USGS found numerous samples had levels associated with toxicity to insects, and thus may be a threat to various pollinators. The scientists sampled surface waters in corn and soybean regions centered in Iowa and found the pollution from neonicotinoids was mobile and persistent. They were detected at all of the sites sampled. Many samples had levels higher than that associated with steadily declining insectivorous bird populations in Holland per Hallman et al. 2014, discussed above.

This is unacceptable to the undersigned. Your agency has allowed this unnecessary “strong negative effect” on ecosystems to unfold in the United States, as it has in Holland and elsewhere. We urge you to personally and promptly ensure reform of the regulatory *status quo*, as you have authority to do under FIFRA.

B. - EPA’s Assessment Should Weigh the Value of Ecosystem Services Threatened by Neonicotinoids

Reductions in managed honey bees, honey bee pollination services, honey itself and other honey bee products attributable to neonicotinoid contamination must be taken into account.¹² Further EPA also must value the “free ecosystem service” of pollination by native species. There are

¹⁰ Van Dijk TC, et al. 2013. Macro-invertebrate decline in surface water polluted with imidacloprid. *PLoS ONE* 8(5): e62374. doi:10.1371/journal.pone.0062374.

¹¹ Hladik ML, et al. 2014. Widespread occurrence of neonicotinoid insecticides in streams in a high corn and soybean producing region, USA. *Env. Poll.* 193:189-196 . <http://dx.doi.org/10.1016/j.envpol.2014.06.033>.

¹² The nation’s valuable honey crop has declined sharply in recent years. Analysis indicates that the States with drastic honey declines are those in the Corn Belt with the most widespread use of neonicotinoid-coated seeds, including, but not limited to, Illinois, Indiana, Iowa, Kansas, Missouri and Nebraska. While correlation does not equate to causation, there are strong indications that causation is at play, not other factors. Kegley, S. 2014. *Assessment of Trends in Factors Affecting Honey Bee Colony Numbers and Honey Production*. Pesticide Research Institute. Powerpoint talk at American Honey Producers Association, San Antonio, TX, Jan. 9. At: http://c.ymcdn.com/sites/www.ahpanet.com/resource/resmgr/2014convpresentations/susan_kegley-pesticide_resea.pdf.

additionally other “services” besides pollination provided by other beneficial species, including, but not limited to, natural pest control and soil enhancement, which also are at risk.

Beneficial invertebrates are essential, often unnoticed, components of healthy agricultural fields, landscapes, gardens and natural systems. Acute and chronic effects similar to those impacting honey bees can harm bumblebees and other “beneficials,” such as lady bugs, ground beetles, earthworms and parasitoid wasps.¹³

In 2006, researchers determined that native pollinators contribute more than \$3 billion to the U.S. agricultural economy.¹⁴ More recently, in California alone, researchers estimated wild pollinators produce between \$937 million and \$2.4 billion per year in economic value.¹⁵ Beyond crop pollination, 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.¹⁶

There are sweepingly important benefits—virtually beyond any monetary calculation—gained by non-crop plant communities sustained through pollination.¹⁷ These include the aesthetic values of flowers, ornamental and native plants; reduction of soil erosion; food and forage for wildlife; and maintenance of forest, grassland, desert and other broad ecological dynamics. Losey and Vaughan calculated the value of ecosystem services to humans from all wild insects in the United States to reach \$60 billion.¹⁸ EPA’s past assessment of neonicotinoid costs have not fully considered their known and potential impacts on these free services.

The IUCN Task Force also highlighted loss of these free services, in a piece with the alarming subtitle “*Global collapse of the entomofauna*”:¹⁹

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.

¹³ Hopwood J, et al. 2013. *Beyond the Birds and the Bees: Effects of Neonicotinoid Insecticides on Agriculturally Important Beneficial Invertebrates*. Report by the Xerces Society. At: http://www.xerces.org/wp-content/uploads/2013/09/XercesSociety_CBCneonics_sep2013.pdf.

¹⁴ Losey JE, and M Vaughan. 2006. The economic value of ecological services provided by insects. *Bioscience*, 56(4): 311–323.

¹⁵ Chaplin-Kramer R, et al. 2011. Value of wildland habitat for supplying pollination services to Californian agriculture. *Rangelands*, 33(3): 33-41.

¹⁶ Losey and Vaughan. 2006, *supra*.

¹⁷ Kremen C, et al. 2007. Pollination and other ecosystem services produced by mobile organisms: a conceptual framework for the effects of land-use change. *Ecology Letters*, 10(4): 299–314.; Abramovitz JN. 1998. Putting a value on nature’s “free” services. *WorldWatch Magazine*, 11(1):10-19. At: www.worldwatch.org/system/files/EP111B.pdf.

¹⁸ Losey and Vaughan. 2006, *supra*.

¹⁹ Bijleveld van Lexmond M, et al. 2014. Worldwide integrated assessment on systemic pesticides - Global collapse of the entomofauna: exploring the role of systemic insecticides. *Environ Sci Pollut Res* DOI 10.1007/s11356-014-3220-1.

We concur with the IUCN Task Force conclusion and urge EPA to fully account for the long-term implications of these pervasive insecticides.

C. - Neonicotinoid-coated Seeds: EPA's Re-assessment of Their Unregulated Status is Urgent

EPA has allowed millions of pounds of pesticidal crop seeds to be planted annually on likely more than 200 million acres nationwide. Almost all of U.S. corn and canola seeds and more than half of soybean seeds are coated with neonicotinoids.²⁰ Many other seeds are coated as well. This prophylactic pre-planting insecticide application occurs **regardless of the pest pressure expected in the field**, as typically there is no monitoring or sampling for pest presence prior to use of the coated seeds.

Approximately 95% of the land area that has been treated with neonicotinoid insecticides in the United States has been treated via planting coated seeds. Remarkably, your agency has allowed – and is allowing - this to occur with no registration of the pesticidal seeds and no enforcement against them in cases of misuse. EPA allowed this to occur by interpreting its 1988 “treated article” exemption, at 40 CFR § 152.25(a), to apply to neonicotinoid-coated seeds.²¹ EPA’s misapplication of this exemption to neonicotinoid-coated seeds has enabled their distribution, sale and use for many years in violation of FIFRA’s registration requirements for pesticides, 7 U.S.C. § 136a(a).

For several reasons, EPA’s interpretation is incorrect. The most fundamental biology-based reason is that in order to meet the requirements of the “treated article exemption” the pesticidal effects must not extend in significant ways past the article itself. However, in the case of coated seeds, only a small fraction of the active neonicotinoid ingredient put on the seed gets absorbed into the full plant. Depending on the crop, up to 90% is either scraped off the seeds and blows away as dust during mechanized planting or sloughs off into the surrounding soil and groundwater. Clear and convincing evidence, such as from the IUCN Task Force, shows insecticidal impacts of the scraped or sloughed-off coatings are occurring qualitatively, quantitatively and chronologically far beyond the planted seeds themselves, going into the entire crop plants, and the soil, dust, water and surrounding non-crop vegetation, as well as into non-target animals.²² This later, pesticidal effect, orders of magnitude more extensive than the coated seed itself, is literally at the root of most of the environmental contamination described herein.

²⁰ Stokstad E. 2013. How big a role should neonicotinoids play in food security? *Science*, 340: 675; Soroka JJ, et al. 2008. Impact of decreasing ratios of insecticide-treated seed on flea beetle feeding levels and canola seed yields. *J. Econ Entom* 101(6): 1811-1820.

²¹ 40 CFR § 152.25(a) provides: *Exemptions for pesticides of a character not requiring FIFRA regulation.*

The pesticides or classes of pesticides listed in this section have been determined to be of a character not requiring regulation under FIFRA, and are therefore exempt from all provisions of FIFRA when intended for use, and used, only in the manner specified.

(a) Treated articles or substances. An article or substance treated with, or containing, a pesticide to protect the article or substance itself (for example, paint treated with a pesticide to protect the paint coating, or wood products treated to protect the wood against insect or fungus infestation), if the pesticide is registered for such use.

²² Krupke et al. 2012; Hopwood et al. 2013; van der Sluijs et al. 2014, *supra*; and Goulson D. 2013. An overview of the environmental risks posed by neonicotinoid insecticides. *J. App Ecol*, 50: 977.

Additionally, FIFRA generally prohibits EPA from registering a pesticide if its use would cause “unreasonable adverse effects on the environment.” This involves weighing costs versus benefits. A recent thorough review of the published science on crop yields shows that the neonicotinoid coating on seeds actually provide no net yield benefit to farmers across the majority of crop-planting contexts in the United States.²³ Instead, they are prophylactically planted as “insurance” with no prior determination as to whether pest pressure justifies using them. In upwards of 80% to 90% of row crop uses, using neonicotinoid coatings is an unnecessary waste.

This shocking lack of documented benefits when weighed against the massive environmental and long-term economic costs of the coated seeds, argues strongly against their continued unregulated use. This is reinforced by the fact that prophylactic deployment of broad-spectrum insecticides violates long-established principles of Integrated Pest Management (IPM). And such insecticides are prohibited in organic agriculture. Over recent decades, many farmers’ adherence to IPM or organic practices has preserved important ecosystem values across the nation by reducing unneeded pesticides and enabling pollinators and other beneficial species to flourish in those areas. EPA’s assessment of the coated seeds technology, which renders them into “neonicotinoid delivery devices,” must take their full impacts on IPM into account as well.

EPA does require label warnings and use directions to go on bags of the coated seeds, but because of the “treated article” exemption EPA considers those labels advisory, not mandatory. Federal and State officials do not enforce the label directions. In short, their labels are utterly inadequate to address the broad risks these seeds pose to honey bees, other pollinators and wildlife generally.

EPA must change course and bring these pesticidal seeds under regulation, consider regulatory restrictions under FIFRA consistent with IPM principles and mandate fully enforceable label warnings and use directions on the seed bags. You have the power to do this by re-interpreting the application of the “treated article” exemption.

D. - EPA’s Assessment Should Address Its Failures to Comply with the Endangered Species Act

EPA has already conceded that it has not consulted 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, “cyantranilprole” (emphasis added):

EPA believes that, as a general matter, currently registered pesticides present a greater degree of risk to listed species than most new chemistries coming to market, including cyantranilprole, and that it is therefore environmentally

²³ Stevens S, and P Jenkins. 2014. *Heavy Costs: Weighing the Value of Neonicotinoid Insecticides in Agriculture*. Report by the Center for Food Safety, Washington, DC. At: www.centerforfoodsafety.org/reports/2999/heavy-costs-weighing-the-value-of-neonicotinoid-insecticides-in-agriculture. Similar conclusions are in: Goulson. 2013, *supra*.

*preferable in most circumstances for EPA to assess the impacts of existing pesticides sooner in the process than newer pesticides that are designed to compete with more risky alternatives. EPA believes that is especially true for cyantraniliprole, where the alternatives include, organophosphates, carbamates, **neonicotinoids**, and pyrethroids. As a result, EPA does not believe the environment or the public would be best served by delaying the registration of cyantraniliprole to complete consultation. Focusing EPA's, FWS', and NMFS' limited resources on completing a consultation on the effects of cyantraniliprole would by necessity come at the expense of putting more resources into evaluating – and consequently regulating, where appropriate – what **EPA believes to be more toxic compounds, that, among other things, pose greater risk, to endangered species than does cyantraniliprole.***²⁴

Despite this admission, EPA still has not adequately assessed or consulted on the potential effects of neonicotinoids on Federally-listed threatened and endangered species, including at least 41 listed pollinators.²⁵ At least three bats, six birds, and 30 butterflies, skippers and moths, plus one beetle and one fly species are pollinators that are also listed species. It is unknown how many of the 880 ESA-listed plants require pollinators, but the number is no doubt substantial. Virtually all the listed species are flowering plants.²⁶ The effect of harm to species that pollinate them must be accounted for under the ESA as well.

It is well-established now that listed birds are at risk from the neonicotinoids, particularly the coated seeds, including, but not limited to, these species:²⁷

Mississippi sandhill crane (*Grus canadensis pulla*)
Whooping crane (*Grus Americana*)
Attwater's prairie chicken (*Tympanuchus cupido attwateri*)
Southwestern willow flycatcher (*Empidonax traillii extimus*)

An “assessment” must recognize the agency’s failures to consult on these and other listed species. Indeed, the ESA includes a clear prohibition against making “any irreversible or irretrievable commitment of resources” pending completion of the consultation duty.²⁸ The evidence indicates there could be irreversible and irretrievable harm to populations of rare species, thus EPA must suspend the most damaging neonicotinoid uses until ESA compliance is achieved.

²⁴ Response to Public Comments on EPA’s “Proposed Registration of the New Active Ingredient Cyantraniliprole: An Insecticide for Use on Multiple Commodities, Ornamentals, Turfgrass, and in Commercial or Residential Buildings,” p. 40. Docket #: EPA-HQ-OPP-2011-0668-0058. 2014. At:

<http://www.regulations.gov/#!docketDetail;dct=FR+PR+N+O+SR;rpp=10;po=0;D=EPA-HQ-OPP-2011-0668> .

²⁵ FWS database. “Pollinators Federally-listed as Endangered or Threatened Species (updated 6/4/2012)” online at: <http://www.fws.gov/pollinators/Programs/Endangered.html> .

²⁶ FWS database. “Listed plants.” At: http://ecos.fws.gov/tess_public/pub/listedPlants.jsp.

²⁷ Mineau and Palmer. 2013, *supra*; Pierre Mineau, PhD. (pers. comm.).

²⁸ 16 U.S.C. §1536(d).

In recognition of such effects, the FWS National Wildlife Refuges (NWR) system has issued a formal decision Memorandum generally phasing out, by 2016, all neonicotinoid use in agriculture on thousands of acres of NWR lands, stating (emphasis added):²⁹

*We have determined that prophylactic use, such as seed treatment, of the neonicotinoid pesticides that can distribute systematically in a plant and **potentially affect a broad spectrum of non-target species** is not consistent with Service policy.*

It follows that any Section 7(a)(2) analysis by EPA involving neonicotinoid seeds anywhere where ESA-listed wildlife or their critical habitats occur must result in a “may affect” determination. As the expert wildlife agency with the duty to protect ESA-listed species, the FWS determination of potential effects, above, is entitled to great deference.

Conclusions

In sum, the accumulating new science and facts compel your finding that the neonicotinoids are imposing unreasonable adverse effects on the environment and the economy, as well as on non-target ESA-listed species. To conclude, and taking into account past policy recommendations on neonicotinoids, we urge EPA to:

- Immediately close the “conditional registration” loophole for neonicotinoid pesticides brought to market without robust review.
- Expedite the development and implementation of valid test guidelines for sub-lethal effects of pesticides on pollinators and require data from these studies for all currently-registered and any proposed new pesticides.
- Ensure that your assessment and all future EPA assessments fully value the broad array of ecosystem services threatened by neonicotinoids.
- Immediately change your interpretation of the “treated article” exemption loophole so as to require registrations under FIFRA for neonicotinoid-coated crop seeds.
- Commit EPA to consulting on proposed registrations of all outdoor-use neonicotinoid products with the FWS and NMFS under Section 7(a)(2) of the ESA.
- Suspend the most harmful uses of the neonicotinoids promptly after your assessment, pending resolution of the severe risks described herein.

The future of the nation’s invaluable pollinators, our cherished biodiversity and the sustainability of rural ecosystems could rest on the assessment you give to the President and on the actions you take.³⁰

²⁹ July 17, 2014, Memorandum “Use of Agricultural Practices in Wildlife Management in the National Wildlife Refuge System,” issued by the Chief of the FWS NWR System, James W. Kurth, to all Regional Refuge Chiefs. At: http://www.centerforfoodsafety.com/files/agricultural-practices-in-wildlife-management_20849.pdf.

³⁰ For further information and to respond to this comment, please contact: Larissa Walker, Pollinator Campaign Director, Center for Food Safety, 660 Pennsylvania Ave. SE, Suite 302, Washington, DC 20003; 202.547.9359; walker@centerforfoodsafety.org.

Sincerely,



George H. Fenwick
President
American Bird Conservancy



Wenonah Hauter
Executive Director
Food and Water Watch



Jay Feldman
Executive Director
Beyond Pesticides



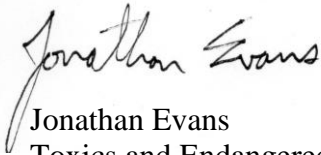
Erich Pica
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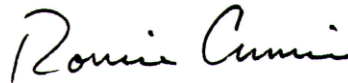
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Ronnie Cummins
International Director
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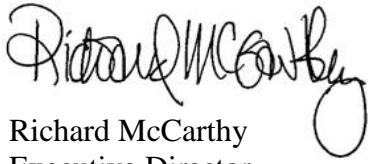
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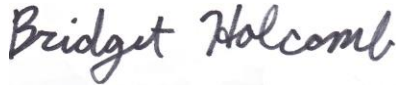
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Also signed by:

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