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LEAD for Pollinators, Inc. · Maine Organic Farmers and Gardeners Association · Maryland Pesticide Education Network · National Latino Farmers & Ranchers Trade Association · Northeast Organic Farming Association, Mass. Chapter · Northwest Center for Alternatives to Pesticides
People and Pollinators Action Network · Pollinator Stewardship Council
Public Employees for Environmental Responsibility (PEER) · Sierra Club
Soda Mountain Wilderness Council · Xerces Society for Invertebrate Conservation

March 15, 2021

Cynthia Martinez, Chief
National Wildlife Refuge System
U.S. Fish and Wildlife Service
Department of the Interior
1849 C. St.
Washington DC 20240

FEDERAL EXPRESS

Re: Wildlife Refuges policy for genetically modified crops and neonicotinoid insecticides

Dear Chief Martinez,

The undersigned conservation, consumer, beekeeper, agricultural and public interest organizations write to urge you to reverse the decision of August 2, 2018, by Gregory Sheehan, who was then the Fish and Wildlife Service's Principal Deputy-Director, labeled as "Withdrawal of Memorandum Titled, 'Use of Agricultural Practices in Wildlife Management in the National Wildlife Refuge System' (July 17, 2014)". Doing so would re-confirm the validity of the National Wildlife Refuge System prohibition adopted in 2014 on certain practices for the limited agriculture that occurs within our nation's Wildlife Refuges. That prohibition applied to the planting of genetically modified (GM) crops and use of the systemic neonicotinoid insecticides in or on crops within the Refuges. That prohibition in the form of the Memorandum of July 17, 2014, issued by James Kurth, then Chief of the NWRS, supported the fundamental mission of the Refuge System, which is to enhance wildlife and biological diversity. The scope and character of farming on Refuges is a discretionary decision to be made by the Service.

The many reasons that support the validity of the prohibition in the Kurth Memorandum follow.

First, it is significant that almost three years later there appears to be no significant utilization of GM crops or neonicotinoid insecticides within the Refuges after Mr. Sheehan lifted the prohibition on their use. This has been primarily due to National Environmental Policy Act (NEPA) concerns and, most fundamentally, the lack of interest within most of the NWRS Regions in allowing the use of these technologies. Thus, we are aware of no evidence that reinstating the former well-supported 2014 prohibition would harm reliance interests of current farmers within the System.

Second, in support of the Service's decision to phase out use of neonicotinoid insecticides, Chief Kurth explicitly found that the "prophylactic use, such as a seed treatment, of the neonicotinoid pesticides that can distribute systemically in a plant and can potentially affect a broad spectrum of non-target species is not consistent with Service policy" or the Refuge Act.[1] Prophylactic use of pre-treated seeds violated the NWRS Integrated Pest Management (IPM) policy, which requires establishment of certain levels of pest before pesticides can be applied. With respect to the continued planting of GM crops, Chief Kurth further explicitly found that because "[r]efuges throughout the country" had successfully demonstrated their ability to meet wildlife management objectives and accomplish refuge purposes and the objectives of the Refuge Act without the use of GM crops, that it was "no longer possible to say that [the use of GM crops] is essential to meet wildlife management objectives," and that as a general policy such practices must be discontinued except in unusual circumstances. The Service's adoption of the Kurth Memorandum was deemed necessary to comply with its Biological Integrity, Diversity and Environmental Health policy, at 601 FWS 3.

Available information indicates that all Refuges in the NWRS, except those granted a specific exception in the 2014 Kurth Memorandum, did in fact discontinue the use of neonicotinoids prior to the 2018 Sheehan decision. This is less clear as far as GM crop planting, but it is believed that they were similarly discontinued throughout the System by 2018**.**

The 2018 Sheehan decision explained neither how the use of harmful neonicotinoid pesticides and GM crops could be allowed in compatibility with Service policy nor with the requirements of the Refuge Act. Yet, such compatibility is required under Service regulation 50 C.F.R. § 26.41(d), or else the practice must be terminated or modified. Specifically, if the practice is a "public or private economic use of the natural resources of any national wildlife refuge," such as a farming practice, the Service only may authorize it after it "determine[s] that the use **contributes** to the achievement of the national wildlife refuge purposes or the National Wildlife Refuge System mission." 50 C.F.R. § 29.1 (emphasis added). The Kurth Memorandum complied with these regulations; however, the Sheehan decision did not.

Third, regarding the prohibition on planting GM crops within Refuges: the most obvious concerns are GM glyphosate-resistant crops, which pose severe harm to imperiled monarch butterflies, beneficial pollinators, and other wildlife that depend on marginal vegetation in and around crop fields. This herbicide resistance in the crop allows farmers to extirpate all such non-resistant vegetation. Monarchs, and their unique North American migration, may be headed toward

[1] National Wildlife Refuge System Administration Act, as amended by the National Wildlife Refuge System Improvement Act. 16 U.S.C. §§ 668dd-668ee.

extinction unless strong protections are put in place. Monarchs should be able to find nutritious milkweed plants (upon which they are 100% dependent) on Refuges, but allowing the use of glyphosate-resistant crops would eliminate such plants from important habitat areas within Refuges.[2]

Now GM dicamba-resistant crops are an ongoing disaster in the dicamba-heavy States, including potentially for the scores of National Wildlife Refuges within those States. Refuge System managers must examine the repeated documentation of harm GM dicamba-resistant crops have caused to surrounding shrubs, trees and vegetation of all kinds, upon which the wildlife under their stewardship depends.[3]

A large variety of vertebrates and invertebrates depend on the natural vegetation found within Refuges. Elimination of marginal vegetation as a direct effect of the planting of GM herbicide-resistant crops is completely contrary to the Refuge System's mission.

Fourth, regarding the neonicotinoid insecticides: the nationwide Refuge System prohibition issued by Chief Kurth had the foundation of detailed Guidelines and a scientific review paper prepared by the Pacific Region that set out the risks of neonicotinoids to wildlife.[4] It also rested on extensive analysis by the Service's contaminants scientist, Dr. Lisa Williams. Her 2014 presentation on the risks of neonicotinoids formed part of her national recognition for receiving the Service's Science Leadership Award, given to the top agency scientist of the year.[5]

Nearly every Refuge within the System conserves at least one plant or animal listed as endangered or threatened under the Endangered Species Act (ESA). An estimated 59 Refuges were established for the primary purpose of protecting imperiled wildlife. Further, your agency has made numerous determinations of the actual harms that neonicotinoids pose to ESA-listed species. For example, the Service listed the Powesheik skipperling (endangered) and Dakota skipper (threatened) under the ESA in October 2014, and in doing so emphasized the impacts on these butterflies specifically from the neonicotinoid pesticides such as thiamethoxam and clothianidin products used as seed treatments. 79 Fed. Reg. 63672, 63737 (Oct. 24, 2014).[6]

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[2] Thogmartin, W. et al. 2017. Monarch butterfly population decline in North America: identifying the threatening processes. *R. Soc. open sci.* 4:170760, http://dx.doi.org/10.1098/rsos.170760.

[3] Bennett, D. 2017. Might dicamba be affecting pollinators? *Delta Farm Press* Sep. 26, at: www.deltafarmpress.com/soybeans/might-dicamba-be-affecting-pollinators.

[4] FWS. Region 1. 2014. *Guidelines regarding the interim use and phase out of neonicotinoid insecticides to grow agricultural crops for wildlife on NWRs in the Pacific Region*, dated July 9, 2014. and Engler, J. USFWS, Region 1. 2014. *References for Neonicotinoid Information Sheet*, unpublished report.

[5] Dr. Williams' 2014 award presentation on neonicotinoids is no longer on the Service website. However, a comparable presentation is summarized in: Association of Fish and Wildlife Agencies, Midwest Wildlife and Fish Health Committee Meeting, April 7-8, 2015, page 5, on "Neonicotinoids – Presented by Lisa Williams, USFWS," at: http://www.mafwa.org/wp-content/uploads/2011/06/f-w-health_rpt15.pdf.

[6] FWS. Endangered and Threatened Wildlife and Plants; Threatened Species Status for Dakota Skipper and Endangered Species Status for Poweshiek Skipperling; Final Rule. 79 Fed. Reg. 63672 (Oct. 24, 2014), at: www.fws.gov/midwest/endangered/insects/dask/pdf/FRButterflyFinalListing24Oct2014.pdf . In the listing, the

Similarly, in deciding not to de-list the valley elderberry longhorn beetle in 2014, Service biologists explained that neonicotinoids were used extensively in California and were "particularly toxic to insects in small quantities." 79 Fed. Reg. 55874, 55906 (Sept. 17, 2014). After discussing neonicotinoid studies showing harmful exposure effects the Service concluded that "pesticides are likely present in areas around and adjacent to valley elderberry longhorn beetle habitat," and concluded that "pesticide impacts to the species and its habitat are likely." In drafting a 2016 Recovery Plan for the endangered piping plover your agency also discussed the neonicotinoids, stating that more analysis was needed of risks, but that use of these insecticides could well be having a negative effect on the entire piping plover population.[7] The Service also has recognized neonicotinoid seed-coatings as a threat to the ESA-listed western yellowbilled cuckoo,[8] and that neonicotinoids are a contaminant of concern for the northern long-eared bat.[9]
An independent expert, Dr. Pierre Mineau, one of the foremost avian toxicologists in the world, identified foreseeable harm from consumption of neonicotinoid-coated corn and soybean seeds to at least three other listed birds depend on Wildlife Refuges.[10] These are the Attwater prairie chicken (associated with the Attwater Prairie Chicken National Wildlife Refuge in Texas), the Mississippi sandhill crane (Mississippi Sandhill Crane National Wildlife Refuge) and the whooping crane (Aransas National Wildlife Refuge, Texas). This is not an exhaustive list; Dr. Mineau has indicated that many other Refuge-associated birds likely are similarly vulnerable.

Populations of game and farmland birds also are at risk including pheasants, grouse, bobwhite and partridges.[11] Consumption of neonicotinoid-coated seeds can cause direct mortality as well as sub-lethal effects, with a leading concern being harm to reproduction.[12] Conserving game birds is a key

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Service explained: *The use of neonicotinoids on agricultural crops has dramatically increased in the last ten years and they are now the most widely used group of insecticides in the world. Neonicotinoids persist in the environment and are thought to accumulate in the soil from repeated applications over time. Insects can be exposed through multiple routes—neonicotinoids are used in seed dressings, foliar spray, soil irrigation water, soil drench, granular in pastures, tree injections, and topical applications to pets*. p. 63737.

[7] FWS, Draft Revised Recovery Plan for the Northern Great Plains Piping Plover, 36 (Mar. 2016), at: https://www.fws.gov/mountain-prairie/es/species/birds/pipingplover/2016/Vol%20I%20NGP%20Draft%20Revised%20Breeding%20Rec%20Plan.pdf.

[8] FWS, Determination of Threatened Status for the Western Distinct Population Segment of the Yellow-billed Cuckoo (*Coccyzus americanus*), 79 Fed. Reg. 59992, 60012 (Oct. 3, 2014).

[9] FWS, Threatened Species Status for the Northern Long-Eared Bat With 4(d) Rule, 80 Fed. Reg. 17974, 18003 (Apr. 2, 2015).

[10] Expert Declaration of Pierre Mineau, PhD., dated July 30, 2015. Filed in Ellis v. Pruitt, case no. 13-cv-01266MMC, U.S. District Court, Northern District of California. At: https://ecf.cand.uscourts.gov.

[11] Yijia, L. et al. 2020. Neonicotinoids and decline in bird biodiversity in the United States, *Nature Sustainability*. DOI: 10.1038/s41893-020-0582-x.

[12] Ertl, H. et al. 2018. Potential impact of neonicotinoid use on Northern bobwhite (*Colinus virginianus*) in Texas: A historical analysis. *PLoS ONE* 13:e0191100. https://doi.org/10.1371/journal.pone.0191100; Millott et al. 2016. Field evidence of bird poisonings by imidacloprid-treated seeds: a review of incidents reported by the French SAGIR network from 1995 to 2014. *Environ Sci Pollut Res* DOI 10.1007/s11356-016-8272y; Lopez-Antia et al. 2015. Risk assessment of pesticide seed treatment for farmland birds using refined field data, *Environmental Research* 136:97–107.

role for Refuges. New science also indicates threats to white-tailed deer, which plainly reside throughout the Refuge System.[13]

As far as bees, the Service concluded that the neonicotinoid pesticides clothianidin and thiamethoxam "have been strongly implicated" in the "precipitous decline" of the rusty patched bumble bee. 82 Fed. Reg. 3186, 3190 (Jan. 11, 2017). Because rusty patched bumble bees are ground nesters the Service specifically singled out the impacts of neonicotinoid coatings on corn and soybean seeds. *Id.* at 3201. The Service went on to conclude that, while there are numerous causes of the bees' decline, "lethal and sublethal effects to bees have been documented for this class of chemicals, so it is reasonable to think that they *likely are contributing to the decline*." *Id.* at 3198 (emphasis added). So, plainly such compounds should not be allowed on any of the scores of Refuges within the rusty patched bumble bee's broad range. Indeed, because they provide diverse forage vegetation and reliable water sources, Refuges are ideal for native bees and other pollinators of all kinds. Indeed, we urge you to consider broadening the prohibition to cover the use of all systemic insecticides and fungicides, beyond only neonicotinoids. A recent study on monarch butterflies and systemic fungicides found potential harm: a 12.5% reduction in butterfly wing length after exposures to fungicides azoxystrobin and trifloxystrobin.[14] Such harm has no place in Refuges.

In conclusion, we urge you to explicitly re-confirm the validity of the Refuge System's 2014 prohibition on GM crops and neonicotinoid insecticides, which remains both scientifically supported and necessary to comply with USFWS policy in these vital Refuges dedicated to conserving the nation's wildlife, including ESA-listed species. You are urged to do so in a way that the prohibition is firmly incorporated into your Biological Integrity, Diversity and Environmental Health Policy going forward, as well as in other applicable regulations. Doing so will strongly underscore the new Administration's re-commitment to your agency's mission. We will look forward to your prompt action.[15]

Sincerely,

American Bird Conservancy
Beyond Pesticides
Center for Biological Diversity
Center for Food Safety
Environment America

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[13] Berheim, E. et al. 2019. Effects of Neonicotinoid Insecticides on Physiology and Reproductive Characteristics of Captive Female and Fawn White-tailed Deer. *Scientific Reports*. 9:4534 DOI: 10.1038/s41598-019-40994-9; and Daley, J. 2019. As Pesticide Turns Up in More Places, Safety Concerns Mount, *Scientific American*, Apr. 30, at: www.scientificamerican.com/article/as-pesticide-turns-up-in-more-places-safety-concerns-mount/.

[14] Olaya-Arenas, P. et al. 2020. Larval pesticide exposure impacts monarch butterfly performance. *Sci Rep* 10, 14490, https://doi.org/10.1038/s41598-020-71211-7.

[15] Lead contact: Peter T. Jenkins, Senior Counsel, Public Employees for Environmental Responsibility, 962 Wayne Ave., Suite 610, Silver Spring, MD 20910 tel: 202.265.4189; email: pjenkins@peer.org

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Public Employees for Environmental Responsibility (PEER)
Sierra Club
Soda Mountain Wilderness Council
Xerces Society for Invertebrate Conservation

CC: Martha Williams, Principal Deputy Director, USFWS