



For a thriving New England

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BY EMAIL

February 17, 2022

House Environment and Natural Resources Committee
RI State House
Room 101
82 Smith Street
Providence, RI 02903

RE: CLF Supports House Bill No. 7129 – Restricting Neonicotinoid Pesticides

Dear Chair Bennett, Vice Chairs Phillips and O'Brien, and Members of the Committee:

Thank you for the opportunity to provide testimony on House Bill 7129, which would restrict the purchase, possession, and use of neonicotinoids in Rhode Island. Conservation Law Foundation (CLF) supports this bill.

CLF is a nonprofit, member-supported environmental organization working to protect Rhode Island and New England's environment for the benefit of all people. We use the law, science, and the markets to create solutions that preserve our natural resources, build healthy communities, and sustain a vibrant economy. CLF supports common-sense and scientifically based regulation of pesticides to protect communities and the environment.

Pollinators Are Critical to Rhode Island's Agriculture Economy

Rhode Island's agricultural sector is important to our economy and our state's well-being. Agriculture contributes approximately \$600 million to our state's economy each year and provides nearly 3,000 jobs.¹ More than 1,000 farms operate in Rhode Island, and most are small family farms.² Honeybees and wild bees are critically important to our state's agriculture economy. Nationwide, about 75% of the food supply relies on insect pollinators.³ A small number of crops are capable of wind pollination, including commodity crops like corn, wheat, rice, and soybeans.⁴ However, the fruiting food crops in which many of Rhode Island's small farms specialize rely on pollinator assistance.⁵ This makes a healthy population of bees and other pollinators especially important to Rhode Island's farmers.

Despite their critical role for our state, Rhode Island's bee populations are at serious risk. According to survey data from the Bee Informed Partnership, a national collaboration of leading scientists, over the last five winters, beekeepers in Rhode Island have suffered colony losses roughly two to five times higher than historical overwintering loss rates in the United States.⁶

¹ Farm Credit East, "Northeast Economic Engine: Agriculture, Forest Products and Commercial Fishing," 2015, <https://www.farmcrediteast.com/knowledge-exchange/Reports/northeast-economic-engine-agriculture-forest-products-and-commercial-fishing>.

² U.S. Department of Agriculture, "2017 Census of Agriculture State Profile: Rhode Island," https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/County_Profiles/Rhode_Island/cp99044.pdf.

³ Christopher Moffat et al., "Chronic Exposure to Neonicotinoids Increases Neuronal Vulnerability to Mitochondrial Dysfunction in the Bumblebee (*Bombus Terrestris*)," *FASEB J.* 21 12, (2015), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4415021/>.

⁴ Catherine Headly, "Honey Bees & Neonicotinoids: Why Pollinators Need More Protections," 38 N. Ill. U. L. Rev. 134, 137 (2017).

⁵ U.S. Forest Service, "Why Is Pollination Important?," <https://www.fs.fed.us/wildflowers/pollinators/importance.shtml>.

⁶ See Bee Informed Partnership, "Colony Loss Map," <https://research.beeinformed.org/loss-map/> (showing colony losses in Rhode Island between 23 and 51 percent over the last five winters); The White House, "Fact Sheet: The Economic Challenge Posed by Declining Pollinator Populations," <https://obamawhitehouse.archives.gov/the-press-office/2014/06/20/fact-sheet-economic-challenge-posed-declining-pollinator-populations> (historical overwintering loss rates were between 10 and 15 percent).

Americans understand that pollinators are in sharp decline and strongly support actions to protect them. In a recent survey conducted by the National Recreation and Park Association, 95% of respondents supported the creation of designated pollinator habitat in their communities.⁷ Although no comparable survey data exists on restricting pesticides to benefit pollinators, Americans clearly care deeply about protecting bees and other pollinators.

Overwhelming Evidence Indicates that Neonicotinoids Contribute to Pollinator Declines

A number of factors play a role in honeybee colony losses, but the overwhelming scientific evidence points to neonicotinoids as a deadly contributing factor. Neonicotinoid pesticides are neurotoxins designed to kill insects. It is therefore no surprise that they are tremendously toxic to honeybees, wild bees, and many other invertebrates. A single teaspoon of a neonicotinoid is toxic enough to deliver a lethal dose to 1.25 billion honeybees.⁸

Neonicotinoids are systemic insecticides, meaning that once applied to a plant, they are absorbed and distributed throughout the plant. Neonicotinoids sprayed onto a plant or applied as a coating to seeds before planting end up in pollen and nectar, where they may be taken up by bees and other pollinators months or even years after application.⁹ Because of their widespread use and long persistence in the environment, neonicotinoids are now found in our soil, water, and air, where they pose additional risks to pollinators and other non-target organisms.¹⁰ In fact, a 2015 study found significant traces of neonicotinoids in 70% of honey samples.¹¹

Pollinator exposure to neonicotinoids can result in a range of harms, from hindering bees' ability to navigate and pollinate to causing sudden death.¹² Impaired navigation has a detrimental impact on the hive's ability to source and share food, leading to a weaker bee population and increased susceptibility to disease and death.¹³ Studies also have found that reproductive function and development are harmed from non-lethal exposures.¹⁴ Collectively, these harms have led to increased instances of colony collapse.¹⁵

The scientific evidence of the harm that neonicotinoids pose to pollinators is increasingly clear. In 2015, a study on systemic insecticides evaluated over 800 peer-reviewed journal articles on neonicotinoids and another systemic pesticide. The authors concluded that neonicotinoids pose a "serious risk of harm" to bees and other pollinators at levels of the pesticides commonly found in the environment.¹⁶ As a result, the authors concluded that neonicotinoids likely contribute to pollinator population declines.

Neonicotinoids Harm Humans, Birds, Mammals, and Other Animals

Although neonicotinoids have long been assumed to be non-toxic to humans, recent scientific evidence suggests that neonicotinoids may cause developmental and neurological damage in

⁷ National Recreation and Park Association, "Parks Play a Vital Role in Saving Pollinators,"

<https://www.nrpa.org/publications-research/park-pulse/park-pulse-survey-parks-role-saving-pollinators/>.

⁸ Adam Allington, "When Is a Pesticide Not a Pesticide? When It Coats a Seed," *Bloomberg Law*, January 27, 2020 (quoting Professor David Goulson of the University of Sussex) <https://news.bloomberglaw.com/environment-and-energy/when-is-a-pesticide-not-a-pesticide-when-it-coats-a-seed>.

⁹ Renée Johnson and M. Lynne Corn, "Bee Health: The Role of Pesticides," Congressional Research Service, February 17, 2015, <https://fas.org/sgp/crs/misc/R43900.pdf>; Jennifer Hopwood et al., "How Neonicotinoids Can Kill Bees: The Science Behind the Role These Insecticides Play in Harming Bees," 2nd ed. 2016, *Xerxes Society for Invertebrate Conservation*, https://xerxes.org/sites/default/files/2018-05/16-022_01_XerxesSoc_How-Neonicotinoids-Can-Kill-Bees_web.pdf.

¹⁰ 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*, 2015, <https://link.springer.com/article/10.1007/s11356-014-3229-5#Sec5>.

¹¹ Chensheng Lu et al., "Distributions of Neonicotinoid Insecticides in the Commonwealth of Massachusetts: a Temporal and Spatial Variation Analysis for Pollen and Honey Samples," *Environmental Chemistry*, 2015; see also E. A. D. Mitchell et al., "A worldwide survey of neonicotinoids in honey." *Science*, 2017, (finding neonics in 75 percent of honey samples collected around the world).

¹² Sydney A. Cameron & Ben M. Sadd, "Global Trends in Bumble Bee Health," *Annual Review of Entomology*, 2020; Danica Baines et al., "Neonicotinoids Act Like Endocrine Disrupting Chemicals in Newly-Emerged Bees and Winter Bee," *Scientific Reports*, 2017, <https://www.nature.com/articles/s41598-017-10489-6>.

¹³ Cameron, *supra* note 12, at 222.

¹⁴ Nicholas L. Anderson & Alexandra N. Harmon-Threatt, "Chronic Contact with Realistic Soil Concentrations of Imidacloprid Affects the Mass, Immature Development Speed, and Adult Longevity of Solitary Bees," *Scientific Reports*, 2019, at 6.

¹⁵ Cameron, *supra* note 12, at 209.

¹⁶ Van der Sluijs et al., *supra* note 10, at 151.

humans, especially pregnant women, infants, and children.¹⁷ This growing body of research is alarming given the widespread neonicotinoid contamination of our food, water, and soil. One study found that roughly half of people over three years old had been recently exposed to neonicotinoids, with young children registering the greatest exposure.¹⁸

Neonicotinoids are also toxic to many other non-insect species. Increasing scientific evidence shows that neonicotinoids pose serious dangers to bird reproduction and development, likely contributing to declining bird populations.¹⁹ Recent research has shown that neonicotinoid exposure in deer is associated with birth defects and decreased survival of fawns.²⁰ Scientists have also shown that neonicotinoid use led to the collapse of a fishery in Japan²¹ – a finding especially concerning for Rhode Island, given its important commercial fishing industry.

With H-7129, Rhode Island Would Join the Growing Number of States Restricting Neonicotinoids

States, particularly in New England, are increasingly placing limits on neonicotinoids in order to protect residents and the environment. Since 2016, legislatures in Connecticut, Vermont, and Maryland have passed a variety of restrictions on neonicotinoids, with a focus on restricting the purchase and use of neonicotinoids to certified applicators or other qualified specialists.²² In March 2021, regulators in Massachusetts voted to strictly limit consumer use of neonicotinoids.²³ Similar action has been taken or is being considered by regulators and legislatures in New York, New Jersey, California, and Arizona. Rhode Island join these other jurisdictions now to protect residents and the environment from exposure to neonicotinoids.

The overwhelming evidence that neonicotinoids harm pollinators and the environment makes restricting these dangerous pesticides the best option for our state, and CLF supports H-7129 as written. The bill would designate neonicotinoids labeled for outdoor use as “state limited use.” It would prohibit the purchase or use of such neonicotinoids by anyone other than a certified applicator, or, in the case of use, someone working under the direct supervision of a certified applicator. In order to further protect pollinators, the bill prohibits the application of neonicotinoids to linden trees and to plants bearing blossoms.

The bill specifically excludes application to:

- (1) Pet or veterinary care products used for preventing, destroying, repelling, or mitigating fleas, mites, ticks, heartworms, or other insects or organisms;
- (2) Personal care products used for preventing, destroying, repelling, or mitigating lice or bedbugs;
- (3) Indoor pest control products used for preventing, destroying, repelling, or mitigating insects indoors; and
- (4) Products used for controlling wood-destroying pests.

Neonicotinoids in those four categories would remain general use pesticides.

The instant bill, H-7129, would be an important first step to protecting pollinators, communities, and the environment.

¹⁷ See letter from environmental health scientists and health professionals to U.S. EPA, January 14, 2020, <https://www.nrdc.org/sites/default/files/letter-wheeler-neonic-pesticides-20200114.pdf>.

¹⁸ *Id.*

¹⁹ See, e.g., Yijia Li, Ruiqing Miao and Madhu Khanna, “Neonicotinoids and Decline in Bird Biodiversity in the United States,” *Nature Sustainability*, 2020; Caspar A. Hallmann et al., “Declines in Insectivorous Birds Are Associated with High Neonicotinoid Concentrations,” *Nature*, 2014, <https://www.nature.com/articles/nature13531>.

²⁰ See Elise Hughes Berheim et al., “Effects of Neonicotinoid Insecticides on Physiology and Reproductive Characteristics of Captive Female and Fawn White-tailed Deer,” *Scientific Reports*, 9, 4534 (2019), <https://doi.org/10.1038/s41598-019-40994-9>.

²¹ See Masumi Yamamuro et al., “Neonicotinoids Disrupt Aquatic Food Webs and Decrease Fishery Yields View ORCID Profile,” *Science*, November 2019, 620-623, <https://science.sciencemag.org/content/366/6465/620>.

²² See Connecticut Public Act No. 16-17; Vermont Act No. 35 of 2019; Maryland chapter 661 of the Acts of 2016.

²³ Motion approved by the Massachusetts Pesticide Board Subcommittee on March 1, 2021. The motion stated, “. . . [T]he Subcommittee modifies the registration classification of pesticide products containing neonicotinoids that have outdoor non-structural uses or outdoor non-agricultural uses on the label from general use to state restricted use. These uses include, but are not limited to, uses on lawn and turf, trees and shrubs, ornamentals, and vegetable and flower gardens.”

For all of the foregoing reasons, CLF respectfully urges passage of H-7129.

Thank you for your consideration.

Sincerely,

A handwritten signature in cursive script that reads "Margaret E. Curran". The signature is written in black ink and is positioned above the typed name.

Margaret E. Curran
Senior Attorney
CLF Rhode Island