February 4, 2026

Environment and Transportation Committee
Hearing February 4, 2026, 1 pm
Bill No.: HB91 – An Act Concerning Agriculture – Neonicotinoid Pesticides – Prohibitions
Sponsors: Delegates Healey and Ruth
Position: Favorable

Dear Chairman Korman and Members of the Committee,

The Maryland Ornithological Society (MOS) requests a favorable report on HB91 from the Committee. MOS was founded in 1945 and is an all-volunteer non-profit organization with about 2200 members organized around 15 chapters throughout the state. Our mission is to study, conserve and enjoy wild birds and their habitats, with special emphasis on birds which spend at least part of their lives in Maryland.

The Advent of Neonic Seeds

When neonicotinoid insecticides (henceforth 'neonics') were first registered in this country, they were seen as replacements for the organophosphate and carbamate insecticides that were less toxic to birds and mammals and which did not bioaccumulate in the manner of DDT.

In 1994 the first neonic products were applied as liquid sprays. In the early 2000's the use neonic-treated seeds (henceforth 'neonic seeds') began. Seed treatments protect the seeds and, since neonics are water-soluble, also protect the resulting seedlings and plants from insect attacks. The use of these seeds has grown enormously since then with the result that neonics are now the most heavily used group of insecticides in the US and worldwide; as early as 2011, 79-100% of U corn was planted as neonic seeds (Douglas and Tooker, 2015). In 2014, 2 million pounds of imidacloprid and 3.5 million pounds of clothinianidin were applied nationwide (USGS, 2024)

Toxicity of Neonics to Birds
Neonics are toxic to birds and neonic-treated seeds ('henceforth 'neonic seeds') are a major source of mortality. Birds feed upon neonic seeds after they are planted, with accidental seed spills being especially important sources of exposure (Roy & Coy 2020). Neonics do not remain on the treated seeds; they move into the resulting seedling and then the plant. They leach into the surrounding soil and ground water (Hladik et l 2017) and are blown away as dust (Schaafsma et al 2019, and Alford & Krupke, 2017). **One or two grains of imidacloprid-treated corn can kill a bird the size of a Blue Jay or a Red-winged Blackbird.** Smaller species tend to be more sensitive **(**Mineau & Kern 2013).

Sublethal doses cause behavioral and physiological changes. Thus, in the spring, Eng et al (2017) fed wild-caught White-crowned Sparrows (which are close relatives of the White-throated Sparrows that are busy at Marylanders feeders right now). This study found that, after dosing with imidacloprid, these birds suffered weight losses, diminished fat reserves and could not orient to the north, as needed to migrate to their breeding grounds. At two weeks after dosing, the treated birds had recovered, but the temporary ill effects would hamper their ability to nest successfully. In the Netherlands**,** Hallman et al (2014) found a strong correlation between declines in insectivorous birds and imidacloprid levels in surface water.

Despite chemical industry claims, neonics are not particularly repellent to birds so that they readily feed upon treated seeds (Mineau & Parson 2013). The widespread use of these seeds means that much of the nation's arable land is now sprinkled with neonic seeds every growing season. Birds can feed upon these seeds shortly after planting and when the seedlings germinate.

There are multiple records of neonic-induced bird kills in the wild, as documented by Millot et al 2016 (Gray Partridge and Wood Pigeon in France), Lovy and Pietsch 2016 (several hundred Red-winged Blackbirds, and at least one Mourning Dove and one European Starling in New Jersey) Botha et al 2018 (Cape Spurfowl in South Africa), Barnett et al. 2002 (12 racing pigeons (i.e. Rock Doves) killed in the UK). It is important to note that poisoned birds are rarely noticed since they usually hide or are picked up by scavengers. Thus the true magnitudes of bird kills are almost always underestimated, if not missed entirely in the case of small ones (Mineau & Kern, 2023)

One Third Fewer Birds in North America Than in 1970

From about 1970 up to 2019 we have lost one third of the birds of North America (Rosenberg at al 2019). The 2025 "State of the Birds in the U.S. A. by the North America Conservation Initiative" (NABCI 2025) shows that bird populations continue to fall. The causes of this alarming decline are almost certainly many, including habitat loss, free-ranging domestic cats and collision with window glass, but **insecticides certainly play a major part**.

Major Declines in Insect Populations

Recent reports have emerged documenting a profound drop in the populations of many species of insects over the last 50 years (Sánchez-Bayo & Wyckhuys, 2019) in North America and Europe, including butterflies and moths, bumble bees, various beetles, damselflies and dragonflies, with many species disappearing altogether from locations where they were previously common. Many of us recall the 'bug splatter' on our windshields after driving on hot August nights, but these are things of the past; our windshields are now relatively splatter-free after night time drives. Insects are vital food sources for numerous groups of birds, such as swifts, swallows, flycatchers, vireos, warblers, kinglets, gnatcatchers and whip-poor-wills. A pair of chickadees require 6,000 to 9,000 insects (mostly caterpillars) to rear a brood of nestlings (2015). Even **birds that normally eat seeds or berries often require protein and fat rich insects to feed their growing young. These dramatic declines of so many groups of insects mean that a vital food source for many birds have dwindled.** This loss of insect biomass is almost certainly a major contributing factor to the loss of so many of our birds since 1970.

The Role of Neonic Seeds in the Insect Declines

Neonics are designed to kill insects; they do not distinguish between pest and beneficial insect species. The very widespread and liberal use of neonic seeds has almost certainly contributed to the declines in beneficial (i.e. non-target) insects noted above. **Thus**, **the impacts of neonic seeds on birds**

are direct toxicity (from consuming the seeds) and indirect (largely due to the greatly diminished populations of their insect prey).

USEPA's Role in Regulating Neonic Seeds: Exempted
USEPA does not require treated seeds to be registered because it classifies them as 'treated articles'. According to the 2023 edition of 50 CFR §152.25(a), 'treated articles' are items which contains pesticides solely to protect the article, such a treated lumber or paints. EPA registrations are not required for treated articles.

With no requirement for registration, there is no requirement for data confirming that treated seeds are effective against insect attacks. The treated article exemption (actually a loop hole) has allowed the surge in neonic treated seeds throughout the country without accompanying data confirming that they are effective.

Many reports shows that neonic seeds do not consistently result in increased crop yields, the primary function of such treatments and there are few studies showing any crop yield increases from using them. Several reports note that neonic seeds are prophylactic treatments which result in increased insecticide (neonics) use, which defeats the worthy goal of IPM (Integrated Pest Management) where pesticide treatments are minimized by only applying them when the pest pressure reaches a pre-determined threshold. With neonic seeds, treatments are always made, regardless of pest pressure, leading to heavier use of neonics. See Hokkanen et al 2017, Krupke et al 2017 and Rowen et al 2022.

Despite two voluminous petitions from groups such as the American Bird Conservancy, (Coalition of 65+ Groups Urge EPA to Reform Bee- and Bird-Killing Pesticides 2023), EPA still declined to require efficacy data for treated seeds. If EPA were to require efficacy data, it is very likely that the resulting studies would show them to be ineffective in boosting crop yields and therefore unnecessary. Any neonic seeds failing to show efficacy would be taken off the market. This would help save our birds, our beneficial insects, and would save our farmers the unnecessary cost of neonic treatment of seed.

Since USEPA declines to regulate neonic seeds, it is up to the states to do so. Maryland has already shown itself ready to step ahead of the pack when it comes to neonics in its successful passage of the 2015 Pollinator Protection Act that has terminated the sales of neonic- containing consumer products in our state. HB 91 is an opportunity for Maryland to take a needed next step on this matter.
Owing to the forgoing, we urge you to support HB 91.

In closing, I thank you and your committee for taking the time to consider our position.

Sincerely,

Robin G. Todd PhD, Board Certified Entomologist (Emeritus)
MOS Conservation Chair
Robin.todd@mdbirds.org

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